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Some Obligations on the Veterinary Practitioner in regard to the Scheduled Diseases of Animals.*

By D. S. Rabagliati, O.B.E., B.Sc., F.R.C.V.S., D.V.S.M., Wakefield.

As this is the first time that I have spoken at any of your meetings, I must take the opportunity of thanking you for having elected me as a member of the Division. There are few more representative or more powerful Divisions of the National Veterinary Medical Association than the 'Yorkshire,' and I feel very glad to be able to consider myself a member.

Since coming to Yorkshire a few months ago, I have met a considerable number of the practitioners of the district, and I hope to have the pleasure of making the acquaintance of many more as time goes on. I must frankly admit that I came in here in some fear and trepidation as to the reception I should receive from members of the profession; for I was the first whole-time veterinary official to be appointed by the West Riding County Council, where we have so many part-time veterinary inspectors, and I naturally felt that my official position might be somewhat resented. I must say, before going any further, that I cannot thank you all enough for the kindness with which I have been received, and wherever I have gone I have been treated with the proverbial Yorkshire hospitality, so what more can I say than this? There is no doubt—as all of you who have given the matter much thought must agree—that the whole-time veterinary officer, like the whole-time medical officer, is becoming more and more a part of the organisation of our local administration. Whether this should be so or not is a matter about which many of us doubtless hold different opinions, but I should like to make it clear to you that the veterinary practitioner in the West Riding has my genuine sympathy for any losses in remuneration that the whole-time staff may inflict upon him, and I can honestly say that wherever I have the power in my official capacity of helping the practitioner—and there are many such opportunities—I shall certainly not fail to do so.

The question of meat inspection is an important one and at present the veterinary profession in England is practically ignored as regards this. If the local sanitary authorities could only be made to see that we are the proper officers to be consulted on this subject, it would bring us much more to the front, and as whole-time county officials could not always be available for consultation in urban or rural district areas, the private practitioner would have to be called in. This question was discussed at the recent Torquay Conference, and from what transpired it would seem that the necessity of legislation placing us in the same position in England that we now hold in Scotland is ever before the Council of the "National" Association, which will leave no stone unturned to bring this matter before the Ministry of Health on every available opportunity.

When I was asked by your President to prepare a paper, although he was tactful enough not to force his views upon me, he suggested that I should say something about the position of the private practitioner in regard to the notification of the scheduled diseases of animals. We have recently been able to read in the *Veterinary Record* a paper by Tweed, of Sheffield,* read before the Derbyshire Division, giving the technique of the diagnosis of several of the scheduled diseases which can be simply carried out by the practitioner, so there is no use in my going over the same ground, but rather would I give you some notes on the legal position and practical application of the Acts and Orders of the Ministry of Agriculture as they concern the private veterinary surgeon. I am not attempting to tell you anything new, but I know that the busy practitioner may become somewhat rusty as regards these Acts and Orders; thus I feel that the subject requires no apology on my part.

The Ministry of Agriculture rightly look to the private veterinary surgeon as a means of helping them to prevent the spread of contagious disease amongst our stock, by expecting him to notify the existence of such in any case to which he is called in the course of his private practice. With this in view, a short Act was made in 1909 to be cited as the "Diseases of Animals Act, 1909," which gives power to pay to any veterinary surgeon reporting a scheduled disease to the local authority, a sum for each notification. The diseases to be notified are not here stated, but the Act reads, "The Local Authority, for the purposes of the Diseases of Animals Acts, 1894-1903, shall pay to a veterinary surgeon or veterinary practitioner, in respect of every notification of disease made by him to the local authority or any officer of the local authority in pursuance of an order under these Acts requiring such a notification, such fee not exceeding two shillings and sixpence as may be prescribed by the Order." Following upon this the "Animals (Notification of Disease) Order of 1910" was made, but this in turn was revoked by a similar Order in 1919, which is still in force. This Order specifies the following diseases:—Cattle plague, contagious pleuro-pneumonia of cattle, foot-and-mouth disease, sheep pox, sheep scab, swine fever, anthrax, epizootic lymphangitis, rabies, glanders and farcy, and sarcoptic and psoroptic mange of horses, asses or mules.

To this list have been added certain forms of tuberculosis of cattle (Tuberculosis Order of 1925, Art. 3). Art. 2 (1) of the Notification Order reads as follows: "A Veterinary Surgeon or Veterinary Practitioner who, in his private practice, is employed to examine any head of cattle, or any sheep, goat, swine, horse, ass, mule, dog or cat, or the carcase of any such animal, and is of opinion that the

* Paper presented at the Annual Meeting of the Yorkshire Division at at Leeds, on 28th October, 1927.

*The *Veterinary Record*, July 9th, 1927, pp. 606-607.

animal is diseased or was diseased when it died or was slaughtered, or suspects the existence of disease therein, shall with all practicable speed give notice of the existence or suspected existence of disease to an inspector of the Local Authority, and also, except where the disease is anthrax, sheep scab, glanders or farcy, or sarcoptic or psoroptic mange in horses, asses, or mules, to a constable of the Police Force for the Police Area in which the animal or carcase is, or was at the time of its death, who shall transmit the information to the Board of Agriculture and Fisheries by telegram addressed 'Agrifi, London.' "

The fee is a nominal one and, where two or more animals are reported as affected on the same premises, only the one fee is paid. Small as it is, it is advisable, however, to collect it in all cases, as by so doing it is proof positive that the practitioner did report the condition. You will notice that the liability for reporting the diseased or the suspected animal is only applicable to the actual case (or presumably cases) to which the veterinary surgeon has been called, and it would seem that there is no legal obligation on the practitioner to report diseased animals which he may happen to see in passing, whether they be on the same premises as the case to which he has been called or not. Practically speaking, I consider that the veterinary surgeon would be guilty of a moral offence if he did not report an outbreak of disease—especially a highly infectious one—because he merely came across it accidentally.

The same moral obligations also apply to markets and fairs, as there is no law binding a general practitioner to report cases of contagious disease in a market or fair, unless of course he is specially called in to examine an animal there for a client.

I now propose to take the scheduled diseases one by one and to say a few words about each.

Cattle Plague or Rinderpest. As this disease does not now exist in this country, the last outbreak having occurred as far back as 1877, but few practitioners have seen it. Diagnosis is practically impossible without a *post-mortem* examination, or probably more than one; for anyone would be a brave man indeed to report an animal as affected at the present time unless he had examined several cases. Diagnosis must be entirely based upon the symptoms shown during life taken along with the *post-mortem* findings. As you know, the symptoms are those of an acute gastro-enteritis, often accompanied by an ulceration of the mucous membranes of the nose and buccal cavity, especially of the gums. These occur as small ulcers covered by bran-like scales, altogether different from those of foot-and-mouth disease. Diarrhœa and dysentery occur before death, which may take place in from 6 to 10 days. The chief lesions occur in the fourth stomach and the intestines. There is no blood test of any value other than the inoculation of the suspected blood into a susceptible bovine, which of course is rarely, if ever, carried out, but the experienced clinician can usually arrive at a diagnosis, especially if many animals are affected. Strangely enough, there is no mention in the Act of 1894, nor even in the Cattle Plague Order of 1895, of the local authority calling in a veterinary surgeon or even a veterinary inspector of the local authority, but merely certain obligations are laid on the inspector, who may or may not be a veterinary surgeon. The Ministry of Agriculture must be notified and their inspectors deal with the outbreak. A new Diseases of Animals Act, 1927, is shortly to be published, and as it repeals several sections of the 1894 Act, dealing with cattle plague and so on, new Orders for cattle plague, pleuro-pnemonia and foot-and-mouth disease are shortly to be issued. In this connection it is of interest to mention that the new Act cancels the obligation on the Ministry to "cause to be slaughtered all animals being in the same stable, herd or flock, or in contact with an animal affected with cattle plague." The new Act leaves this as a discretionary power in the hands of the Minister. This, according to a recently published circular letter, allows for the use of some immunising agent (presumably serum) to save the in-contact animals. To anyone understanding the benefits to be derived from such serum, it would seem to be a wise measure. The animals affected by the cattle plague order are cattle, sheep and goats, all other ruminating animals, and swine.

Contagious Pleuro-Pneumonia of Cattle. This disease, which was very prevalent in Great Britain long ago, raged between 1870 and 1890, and was last seen in 1898, when only one case was recognised. Since then the whole country has been free. Should a veterinary surgeon be called to a case which he considers suspicious, it is his duty to report it under the Animals (Notification of Disease) Order of 1919. Diagnosis is by no means easy and no one would be rash enough to try and make one in a living animal unless the disease once again became common in the country, which I trust is never likely to happen. Diagnosis is chiefly based on the character of the lesions in the lungs, especially when changes of different ages are present at one and the same time. Laboratory diagnosis has been carried out by means of the precipitin test and the fixation of the complement—tests of an intricate nature and only to be carried out by experienced bacteriologists in a fully-equipped laboratory. In Australia the agglutination test has been employed with success, the blood of living subjects being used. As previously stated, a new pleuro-pneumonia Order is shortly to be published, which will no doubt give further powers for dealing with any possible outbreak of the disease. The word "animals" in this 1895 Order means cattle, and the term has the same meaning as in the 1894 Act, which includes bulls, cows, oxen, heifers and calves.

Foot-and-Mouth Disease. The notification of an outbreak or of a suspected outbreak is compulsory if the veterinary surgeon has been called in to a sick animal which he suspects to be so affected. An inspector of the local authority of the area in which the diseased or suspected animal is must be informed and also a police constable, who shall transmit the report by telegram to the Ministry. It need hardly be said that if any practitioner has the misfortune to find himself inadvertently mixed up with this disease, the best thing he can do is to disinfect himself as well as he can and to go straight home and change all his clothes and boots, having a good bath before he again goes near any animals. Clothes worn on such an occasion should not be used again until they have been thoroughly disinfected or well stoved. In the 1894 Act there was no obligation on the police to send for a veterinary surgeon or even a veterinary inspector on a

report of foot-and-mouth being received, but " only if so required by order of the Board." Now, under the Foot-and-Mouth Disease Amendment Order of 1925, No. 2, Art. 1, it is obligatory for the local authority to call in a veterinary inspector. No one, I think, requires to be told that immediate action is essential in dealing with suspected outbreaks of this disease—even half-an-hour's delay may be fraught with serious consequences.

As to the diagnosis, the symptoms are too well known to require a description in a paper such as this. I would remind you of the frequent absence of mouth lesions in sheep and pigs and of the necessity of ever keeping in mind the possibility of foot-and-mouth disease in suddenly occurring lameness in these animals. The appearance of stomatitis is suspicious and many cases have been missed in the early stages by practitioners attributing it to some toxic or irritating fodder taken by the animals.

The veterinary practitioner can do a great deal more than many think in pointing out to farmers the reasons for such Orders as " The Foot-and-Mouth Disease (Packing Materials) Order of 1925," whereby no straw used for packing must be brought into contact with stock, nor any wrappings of meat or of meat products without first being boiled.

A very recent instance of a primary outbreak of foot-and mouth disease in this country was traced definitely and experimentally to a piece of bone from imported meat being thrown unboiled amongst stock. To prevent such occurrences the " Foot-and-Mouth Disease (Boiling of Animal Foodstuffs) Order of 1927 " was made last March. This Order refers to cattle, sheep, pigs, and goats, and requires that (*a*) any meat, bones, offal or other part of the carcase of an animal ; or (*b*) any swill or broken or waste foodstuffs which have been in contact with any meat, bones, offal or other part of the carcase of an animal, which are intended to be fed to animals, shall be boiled for at least one hour before they are brought into contact with or fed to animals. Had this Order been adhered to, this new outbreak of the disease would not have occurred. The farmer will often listen to his own veterinary adviser more than to an official and certainly will pay more attention to him than to a police inspector once the latter's back is turned. I consider it to be your duty to do your best to enlighten farmers as to why these Orders are made, for my experience is that if once the reasons for what are often thought to be useless and irritating measures are explained to them, farmers will, in the great majority of cases, do their best to carry them out ; but they must be convinced as to the " whys and wherefores." The human memory is a short-lived one and your clients soon forget, so that it behoves you to refresh their memories from time to time.

Sheep Pox. Although this disease must be notified if suspected, it has not been seen in Great Britain for many years, and has never occurred otherwise than by the importation of living diseased animals. Suspicion would be aroused by finding sheep markedly ill with high temperatures and suffering from an exanthematous eruption of the mucous membranes of the eyes, nose and mouth and on the hairless part of the skin, such as the insides of the thighs, elbows, underside of the belly, on the scrotum and udder. The parts covered by wool may also be involved. The lesions go through the usual course of a variolous condition, *i.e.*, reddened areas, pimples, pustules which burst and discharge a sticky material, finally healing under a scab. On *post-mortem* these lesions are seen and there may also be inflamed areas in the throat and patches of pneumonia in the lungs. As it is unlikely that any of us will meet with cases, it is unnecessary to dwell longer on the symptoms exhibited.

Sheep Scab. Strictly speaking, there are three forms of mange which may occur in sheep, namely sarcoptic or " black mange," affecting chiefly the head and ears ; symbiotic, affecting the fetlocks and legs and even sometimes the base of the tail ; and the common or psoroptic variety usually designated " scab," due to *Psoroptes communis, var. ovis.* The first two are exceedingly rare. Diagnosis is based on the general appearance of the sheep, which is restless, and if watched for some time can usually be picked out from amongst the others by its jerky movements, its tendency to bite itself or to rub its body against any posts, trees or other objects. The wool becomes loosened and torn in patches and the skin on examination appears red and has numerous small pimples which exude a thick sticky fluid. The appearance varies much according to the time the sheep have been affected. On one's rubbing the affected parts the sheep shows signs of pleasure, but the only really pathognomic sign is the demonstration of the acari. There is no reason why the general practitioner should not take skin scrapings and examine them himself if he is suspicious. The sheep can be driven about to warm them up as the parasites are the more readily seen when warm. I have found one of the best methods is to put some scrapings in a petri dish and expose it to the sun's rays if possible or, failing this, to heat it gently. This activates the parasites and if the scrapings are then examined over a black surface by means of a hand lens, small white acari can easily be seen. A slight movement of a particle of wool often first draws attention to the position of the parasites and once located by the lens they can be seen by the naked eye. Another and perhaps surer method is to put scrapings in a 10 or 15 per cent. solution of caustic potash, boil in a test tube, then spin for a few minutes in a centrifuge and examine under a 2/3 lens. This course is necessary for the diagnosis of sarcoptic mange. Even if sheep show reasonably suspicious signs and the parasites are not seen it is wiser to report the sheep and let the onus of proof be on the veterinary inspector, who probably can give more time to the diagnosis than the busy practitioner is able to do. The following conditions may be mistaken for scab :—The presence of ticks, keds, lice, maggots, harvest mites, scalds from using dips too strong, and that peculiar disease, scrapie, must not be forgotten. Liability to report rests both on the Notification of Disease Order and on the Sheep Scab Order of 1920, Art. 2. Veterinary surgeons should miss no opportunity to impress on their clients the reasons for double dipping of sheep by explaining the life history of the causal parasites and so stimulate farmers to take active measures for the prevention of scab without official interference being required.

Swine Fever. There is no special provision in any of the swine fever orders compelling the veterinary surgeon to report the disease, though he is bound to do so under the Notification of Disease Order of 1919. Whenever the

practitioner comes across a lot of pigs that are not thriving well, especially when there have been many deaths amongst the young pigs with nothing definite to account for them, he should suspect the presence of swine fever. The most pronounced symptoms will be observed in the half-grown pigs, some of which will be found to be lame and stiff; others will have chronic coughs with a dirty discharge from the eyes and nose, frequently accompanied by diarrhœa. A chronic type often manifests itself, when no signs can be noticed amongst the full-grown breeding sows, but the owner may have suffered many deaths from amongst his sucking pigs which he will attribute to many causes other than the true one. Should the client ask for a *post-mortem* examination on a pig there is no reason why the veterinary surgeon should not make one, but if he should find any suspicious lesions it is his duty to leave all organs along with the carcase and immediately report his suspicions to the nearest police constable or police station. Swine fever is one of the diseases dealt with by the Ministry's staff or by veterinary inspectors specially appointed by the Ministry and not by the local authority. The most typical lesions are, of course, the presence of swine fever ulcers round about the ileo-cæcal valve, but these may be absent in many acute cases and the diagnosis must rest on the inflamed stomach and bowels, with pneumonia. Swine erysipelas is the most likely disease to be confounded with swine fever.

Anthrax. The Anthrax Order of 1910 is the only Order at present in force dealing specifically with this disease. In this Order the word "animals" means cattle, sheep and goats, and all other ruminating animals and swine, horses, asses, mules and dogs. The onus to report is on the owner or person in charge and also, by reason of the Animals (Notification of Disease) Order, on the veterinsurgeon. As you all know, the commonest cause of suspecting anthrax is the finding of a dead animal, especially a dead bovine. There is no reason why the general practitioner should not take a drop of blood from the ear, tail or other peripheral vessel and examine it for anthrax by using the standard method of staining with a 1 per cent. solution of methylene blue. The occurrence of "M'Fadyean's Reaction," whereby the slide becomes of a purplish colour, and the presence of anthrax bacilli, is definite evidence of the disease and in this event the case must immediately be reported to the police, the owner at the same time being warned to take the necessary precautions. There is, of course, no need to take a blood film and many veterinary surgeons prefer to report all cases of sudden death in cattle, and leave the diagnosis to the veterinary inspector on whose shoulders, as in many other cases, the responsibility for a correct diagnosis must fall. In no case must the skin of an animal which has died suddenly from an unexplained cause be cut, more especially if it be a bovine, until the practitioner has satisfied himself beyond the shadow of doubt that death was not due to anthrax. In the case of sheep there is not the same fear and in many districts, especially where braxy exists, dead sheep are regularly opened, but a wise veterinary surgeon, if called in, should examine for anthrax first.

There is not much difficulty in the case of a dead animal, but when the animal is still alive and showing suspicious signs, the veterinary practitioner is often much puzzled as to how to act. It must not be forgotten—and I hardly think that this fact is sufficiently realised by all practitioners—that cattle can, and frequently do, recover from anthrax, especially in an outbreak where there have been several cases. There is no reason, however, why a single ox should not suffer from anthrax and yet recover. If a veterinary surgeon is consulted and from the general symptoms—of fever, rapid respirations, irregularity of the heart's action and signs of collapse—he suspects anthrax but is not sure (as, indeed, how can he be ?), he feels that should the animal die and it not prove to be anthrax, his client will blame him for not permitting slaughter, when perhaps the carcase might have been salved, and yet if he allows the slaughter, the consequences may be very serious. All he can do is to warn his client of the danger and say that should he slaughter his animal, and it turn out to be anthrax, he (the owner) will run the risk of prosecution under the Anthrax Order, not to speak of suffering from the shedding of blood, consequences much more serious than a mere fine. The examination of the blood in a living subject is not of much use, although Begg, of Lanarkshire, reported two cases in which anthrax bacilli were demonstrated in the blood of living bulls, the one three and the other seven hours before death.* Begg thinks this is more likely to occur in bulls than in bullocks or cows owing to their greater resistance to the disease. Another difficulty in diagnosing anthrax is that in a few cases the temperature may fall to a point only slightly above the normal before death, so that too much reliance must not be placed on the temperature. I need hardly remind you that, in the case of a horse, examination must be made from the fluids from a gland or an œdematous swelling if present and from the swollen throat in the pig. When in doubt a safe maxim is to report unless the practitioner is able conclusively to disprove his fear. I do not mean that cases while still alive ought all to be reported, although there may be occasions when this would be a wise move.

Epizootic Lymphangitis. This disease, which has not occurred in Great Britain since shortly after the South African War, is one to be reported if met with. The symptoms, as you know, are not unlike those of farcy; small ulcers or "buds" occurring on the skin over the shoulder, fetlocks or knees, but they may be found anywhere, even on mucous surfaces, and they may even occur as chains of ulcers or buds. Diagnosis is not difficult. Prick an unopened bud, the riper the better, and make a thin film on a microscopic slide. The parasites are not easy to stain to show up to advantage, but for diagnostic purposes, carbol fuchsin, such as is used for staining tubercle bacilli, does quite well. If positive, we find the presence of the *Cryptococcus farciminosus* of Rivolta, as oval bodies about 3 to 4 microns by 2.4 to 3.6 broad, showing the characteristic double contour. Mallein may also be used in a doubtful case to eliminate the possibility of farcy.

Rabies. At present the chances of meeting with a case of rabies are very small, but in countries where the disease exists it is wiser to consider every dog and cat, or even other animal which bites anyone as suspicious until proved otherwise. One can only be guided by the symptoms shown and the whole history of the case. On *post-mortem*

**Veterinary Record*, October 23rd 1926, pp. 960-961.

there are no definite lesions present to the naked eye. An inflammation of the fauces and the presence of foreign bodies in the stomach are suspicious, but we can say no more than this, and these signs may be absent in real cases. All that a practitioner can do to safeguard himself and his client is to report on reasonable suspicion. Under Art. 3 of the Rabies Order of 1919 it is obligatory on the local authority to destroy all diseased or even "suspected" dogs or cats. I have always found this difficult to understand, for, first of all, it is impossible to diagnose rabies until after death, and, secondly, if an animal becomes vicious and bites a human being, it may be suspected of being rabid, whereby it must be destroyed. When the animal is killed in the early stages diagnosis may be difficult or impossible and the bitten patient may have to undergo the Pasteur treatment as a precautionary measure, whereas, where an animal can be placed under restraint, if at all possible, and kept under observation until diagnosis is determined, the patient does not require to go to the trouble and expense of treatment if it proves to be a false alarm. In many countries where rabies is common, the one thing that is impressed on police authorities is not to kill the suspected animal if it is at all possible to capture and restrain it. If the animal can be put in a suitable cage it must be kept for a period of ten days. If it lives for this time and appears well at the end, it may then be released, as it can be taken for granted that there was no virulence of the saliva at the time of the bite. The animals included in the Rabies Order comprise those specified under the term "animals" in the 1894 Act, which are cattle, sheep and goats, all other ruminating animals, and swine, horses, asses, mules, dogs and cats.

Glanders and Farcy. Happily this disease is now so rare that it is not one that we expect to encounter in every-day practice. Nevertheless, suspected animals must be reported by the practitioner, both under the Notification of Diseases Order and also under the Special Glanders and Farcy Order of 1920, Art. 3. Advanced cases can be diagnosed clinically or a suspected horse, ass or mule may be tested with mallein if the practitioner thinks necessary, but it is probably the better policy to report all suspected cases and allow the test to be done by the approved veterinary inspector. Only horses, asses and mules are included in the Order.

Sarcoptic and Psoroptic Mange in Horses, Asses and Mules. Only the two above forms of parasitic mange are scheduled and it is the duty of the veterinary surgeon to report on reasonable suspicion both under the Parasitic Mange Order of 1911, Art. 3, and also under the Notification Order. Symbiotic mange of the horse is not included and need not be notified, nor need any other form of mange in any animal with the exception of sheep scab. Psoroptic mange can usually be recognised clinically without any appreciable difficulty and the parasites demonstrated with a hand lens by the method described in speaking of scab. It is usually localised to the regions of the mane, withers, around the saddle, loins and base of the tail, but in rare cases it may spread all over the body even including the limbs.

Sarcoptic mange requires much more care and cannot be diagnosed without demonstrating the parasite microscopically. Deep scrapings from recently-affected areas must be taken and examined either by boiling them in caustic potash solution and spinning them in a centrifuge, or by the sugar floatation method of Sheather. When there is reasonable doubt it is better to report the case as suspected and allow the veterinary inspector to settle the matter and so take the responsibility off the shoulders of the practitioner.

Tuberculosis. Under the Tuberculosis Order of 1925, Art. 3, it is the duty of any veterinary practitioner to report any bovine animal, namely, any bull, cow, ox, heifer or calf that shows signs of the following types of tuberculosis. "i. Any cow which is or appears to be, suffering from tuberculosis of the udder, indurated udder or other chronic disease of the udder; or ii. Any bovine animal which is or appears to be, suffering from tuberculous emaciation; or iii. (*a*) any bovine animal which is suffering from a chronic cough and showing definite clinical signs of tuberculosis." It is hardly to be expected that the practitioner should examine samples of milk from the suspected udder, when it is the duty of the veterinary inspector to deal with them, but when in the course of your practice any of you comes across a cow with a chronic induration of the udder, more especially a hind quarter the milk of which is not changed, or at least but little altered, such a case should be reported as suspicious. A cow or a bovine losing flesh, "tight in the hide," and coughing frequently should be reported under Category ii., and the emaciated animal which you are satisfied is not suffering from Johne's disease must not be passed over. It is especially the udder cases that we want to get hold of, and you, gentlemen, can be of great assistance to the community in bringing such to light. To anyone wanting a short description of the tuberculous udder and how the organisms can be rapidly demonstrated, I can recommend you to read Torrance's excellent remarks at Torquay, as published in the *Veterinary Record* on October 1st, pp. 875-878.

In illustration of the fact that the profession does not seem to realise its responsibilities in this respect, I may say that out of 218 cases dealt with under the Tuberculosis Order in the West Riding during the last quarter, five only were reported by members of the veterinary profession other than part-time inspectors. Amongst these only two were cows with tuberculous udders, but I feel sure that more could have been notified if the obligation had been strictly carried out, though it may have been that only this number of animals showing open lesions happened to have been treated by veterinary surgeons during the period. No doubt it is very difficult for anyone to report his clients' animals unless extremely badly affected, but still I cannot help feeling that more might be done in this direction.

Epizootic Abortion is the only other scheduled disease. Here there is no call for notification, but the general practitioner can greatly assist stock owners, and no doubt also often his own clients, if he calls attention to and explains the Order to them. The chief items are the prohibition from exposing a cow or heifer for sale in a public market or fair if she has calved prematurely within the previous two months, or from selling such an animal privately without giving written notice of the fact to the purchaser. It is also illegal to send such an animal to a

bull for service unless the owner of the bull has been so notified in writing; nor is anyone permitted to turn out on common land or allow in any way to mix with other cattle, any such cow or heifer.

If this paper does no more than bring out in its discussion some of the difficulties that members find in bringing cases of scheduled diseases to light, its object will be well achieved, but I hope that you will not hesitate to put forward your side of the question, for only by so doing can we understand each other's position and so perhaps clear up misunderstandings.

Discussion.

Opening the discussion, Mr. Abson said he would like to thank Mr. Rabagliati for his extremely versatile and concise paper. He had covered an enormous amount of ground,and to attempt a discussion even of one or two of the matters he had brought forward would take a considerable time. They should all read, mark, learn and inwardly digest in their quiet moments the paper when it got into print, and they would be wiser men when they had read it.

Mr. Sampson welcomed the new addition to their Society, and thanked him for his splendid paper. He was glad to note that the essayist appreciated the difficulty in diagnosing anthrax, and he instanced cases where he had had this difficulty in his own practice. He would like to ask Mr. Rabagliati for his opinion on a question in regard to contagious abortion. A client of his had recently purchased three cows in calf, due at various dates. Two of them calved on the dates given, but the calves were only of seven months' gestation, and he would like to know whether there was any cause of action against the person selling the animals without disclosing the fact that they were affected by contagious abortion.

Mr. Halstead expressed the view that Mr. Rabagliati might help them if he could explain how far the veterinary practitioner was expected to go when they met with an infected animal—whether they should report at once, or make an examination. It would help the veterinary inspector quite a lot if the practitioner would get hold of him on the 'phone and arrange to meet to discuss the matter.

Mr. Dixon said the Society was to be congratulated upon having been addressed so ably by Mr. Rabagliati. Probably the best result that could be attained from the introduction of the subject would be the closer co-operation between the official veterinary inspectors and the general practitioners. Before it could be hoped to cope successfully with the terrible amount of animal disease in the country there must be a much more intimate co-operation between the two parties. He thought it was not over-stating the case to say that the extension of the principle of the establishment of whole-time veterinary inspectors, so as to remove them from the ranks of competitors, would go a very long way towards obtaining that co-operation that was so urgently needed.

Mr. Campbell stated that he was very pleased to see that Mr. Rabagliati appreciated the great difficulties some of them had in diagnosing disease, for example, anthrax. He considered the thermometer was of no use whatever in diagnosing anthrax. With regard to the reporting of tuberculosis in cows, he thought the authorities were themselves to blame for that, because the farmer was beginning to be wide awake and found it was better to send his cattle to the knacker yard, rather than get 45s. or £3 for them, and he rarely called in the veterinary surgeon. They thought it was better to sacrifice two or three pounds and keep their dairy farm clear of the name "tuberculosis." He had not a great deal of experience of rabies, but he did not think a medical officer of health would allow them to watch a dog for ten days without taking some steps.

Mr. Gillespie expressed the opinion that if there was universal inspection of cattle for tuberculosis, say every four or six months, without any notification, it would be a good thing, for farmers would soon be alive to the situation and, once caught, would not care to repeat the experience. Tuberculous udders were difficult to diagnose, unless they were flagrant cases. As to swine fever, there was little fear of diagnosing wrongly if they followed Mr. Rabagliati's advice.

Mr. Proctor frankly admitted he had seen cases where cattle suffering from tuberculosis had been sent direct to the knacker yard without being reported. He would like to know the position of the veterinary practitioner in a case of that description.

Mr. Gentle instanced cases in his own experience where he had had difficulty in diagnosing cases of anthrax.

Mr. Scott desired to add a note of appreciation of the paper. It was mainly a statement of instructions to them, and there was very little that was controversial. He would like to know if in a case of indurated udder they were at liberty to make a microscopic examination and give the owner an immediate decision rather than he should suffer the loss of the milk from the cow for a month.

Mr. Carter said he was particularly interested in Mr. Rabagliati's remarks with regard to the onus that rested upon the general practitioner in reporting cases of disease that came under the Contagious Diseases of Animals Act. He believed there was more reciprocity nowadays between the whole-time inspectors and the general practitioners than existed in times gone by. There was no difficulty in testing for anthrax, as a slide could be taken and the determination made in a very short time. It was not a long process, either, to take samples of milk and test for tuberculosis. He thought reciprocity was coming about between the whole-time inspector and the local practitioner, and it would have a very great effect in reducing the cases of contagious diseases in animals.

Mr. W. Ackroyd (Chairman) remarked that one thing that had struck him was that the veterinary surgeon was not bound to report infectious disease unless he was called in to see the particular animal, but if in the course of his duty he was called in to see a cow, and the one next to it was obviously a diseased animal, he should deem it his duty to report it at once. The owners would not report cases, and until the inspector made a periodical examination there would not be many cases reported, in spite of prosecutions. One point not mentioned by Mr. Rabagliati was the case where tuberculosis was present as a concomitant of other things—for instance, where the animal was emaciated from dropsy of the udder. With regard to swine fever, there was a feeling amongst small farmers that every dead pig should be reported to the police. Occasionally the veterinary surgeon was given the benefit of a *post-mortem* but it was not accepted for swine fever unless there were very visible and palpable ulcers in the intestines. They were all delighted to have had their new member as an essayist, and they would all be glad to help him as far as they possibly could in carrying into effect the Contagious Diseases of Animals Act.

The Reply.

Replying on the discussion, Mr. Rabagliati thanked them very much for the way in which they had received his paper. He gave several instances from his own experience of the difficulty of diagnosing anthrax, and said that in some cases it was almost impossible to decide during life.

With regard to the case of contagious abortion mentioned by Mr. Sampson, he did not think any prosecution under the Contagious Abortion Order could have been carried out.

Concerning the question as to whether veterinary practitioners could take blood films in cases of anthrax, the Anthrax Order said the skin must not be cut, but the Ministry of Agriculture were quite reasonable enough to realise that no diagnosis could be made without taking blood, and he could see no reason why blood films should not be taken, but if the veterinary surgeon made a mistake he would have to accept responsibility.

He quite agreed with Mr. Halstead that there should be closer co-operation between the general practitioner and the veterinary inspector, and if they did not get this co-operation they would never get the Acts and Orders

carried out in the spirit needed. If a man got a doubtful case it would be of the greatest assistance if he would ring up the inspector and arrange to meet and discuss the case. He had found such co-operation of invaluable assistance when dealing with sanitary inspectors and medical officers of health.

He did not agree with Mr. Campbell that the thermometer was of no assistance in diagnosing anthrax. In the majority of cases it was most useful, although there were cases where they did find anthrax without a high temperature, especially just preceding death.

With reference to farmers not reporting cases of tuberculosis because of the prices given; in his opinion the farmer who only reported a "screw" animal was getting more than he deserved, whereas the farmer who reported a good cow with a bad udder was sometimes very hardly treated. Personally, he considered the Order should be altered, and he understood that some alteration was under consideration by the Ministry. The differentiation between advanced and non-advanced was wrong.

Mr. Campbell had spoken about rabies and said that a medical officer would not wait ten days. He had seen a great deal of rabies, especially in Egypt, where every animal that bit any person or another animal must be isolated, and special cages were kept in the police stations and veterinary hospitals for keeping animals under observation. Ten days after the bite in slight cases was quite time enough to save the patient if treatment was properly carried out. He thought the ordinary medical officer of health would be quite willing to allow the ten days to elapse. It meant that if the animal shewed no definite signs of rabies within ten days, the saliva was not virulent at the moment of the bite and the patient could escape treatment.

With regard to the point raised by Mr. Gillespie as to the routine veterinary inspection of cows, they hoped to do that in the West Riding at least twice a year. That was hardly enough, but it was better than nothing. Personally he felt that no man could definitely say, on feeling an udder, whether the induration was tuberculous or not; he did not believe anyone was capable of saying absolutely without a test of the milk. If they used microscopic tests they were not likely to make a mistake when positive.

Concerning Mr. Proctor's question as to the position of the veterinary practitioner who knew a man was sending a bad cow to the knacker yard—legally, if they were satisfied the cow came under the Tuberculosis Order it should be reported and dealt with, but if they were satisfied that they were doing the right thing in allowing the cow to be killed in the knacker yard and not sold for human consumption it might be allowed to go. If he were asked officially, he would have to say "report the case," but unofficially he would say, "use your common sense, but do not let the cow pass out of your hands without being absolutely satisfied she had gone to the knacker's yard."

Mr. Robinson had said there were no penalties with respect to contagious abortion, but there were penalties under the Diseases of Animals Act, 1894.

In reply to Mr. Ackroyd's point about cows suffering from tuberculosis with some other disease present, such cases were difficult to deal with, as in some instances it was hard to say by what emaciation was caused. He thought that Mr. Ackroyd was wrong in saying that swine fever was never confirmed unless ulcers were present, because, to his knowledge, cases of swine fever had been diagnosed where typical ulcers were not present.

Regarding the stopping of the milk from a farm where a case of anthrax had been found, it would be a great injustice to do this. He had never heard of any cases where human anthrax had been caused by the drinking of milk, although there might be one or two such instances.

He thanked them very much for the way in which they had received his paper.

Rinderpest Control in Kenya.*

By H. H. Brassey-Edwards, M.R.C.V.S., Deputy Chief Veterinary Officer, Nairobi, Kenya Colony.

The meaning of rinderpest control, for the purpose of this paper, is the checking and regulating of outbreaks of the disease by preventative and eradicative methods. The views expressed are based on my experience of rinderpest in Kenya. When the Council of this Association persuaded me to present a paper to this meeting on rinderpest control, they had in mind the knowledge of my recent tours in Egypt and India. These tours were undertaken on behalf of the Kenya Government with the object of inspecting other methods of controlling rinderpest.

There are two schools of thought as to the method to be adopted for the control of rinderpest. The one is the adoption of quarantine restrictions on the movement of stock and an inoculation of infected and in-contact animals with anti-rinderpest serum, and the other is giving an active immunity by the simultaneous inoculation of virulent blood and anti-rinderpest serum.

With quarantine measures effectively stopping movement of all stock, together with the collection of infected cattle into cordons and the destruction or sterilisation of infected carcases, it is possible to eradicate rinderpest. This system is useful in countries like Kenya, where native peoples are doubtful, or suspicious, of all things appertaining to their stock and resent any idea of protective or preventative inoculations. Large infected areas have been cleaned up by this method of control, but the time required is irksome to the administrative officers and constant requests are made for the relief of the restriction on the movement of stock, to permit sales and provide cash for the payment of taxes, etc. A large staff is required to control these restrictions, as any success depends completely upon holding up the movement of stock and infective material. On every occasion, when this system has been practised in this Colony, the disease was eradicated, but as soon as quarantine measures were slackened rinderpest reappeared and spread rapidly by the necessary movement of stock which had to provide food and income by sale or barter.

The word "quarantine" is a dreadful word to administrative officers, and a word well known to the local native peoples, as all native reserves are in quarantine for rinderpest and must remain so until a system of control is established having a permanent effect on preventing the spread of this disease. Quarantine measures, in themselves, are therefore unsatisfactory, but they bring the first contact of active methods to the crude native peoples' mind and give them the first degree of confidence.

The next step of control methods follows by inducing the more enlightened of the native people to submit their stock for inoculation with anti-rinderpest serum. The use of preventative doses of anti-rinderpest serum, coupled with the prevention of movement of all infected and in-contact animals, eradicate an outbreak quickly, and by preventing a big mortality, another step is made towards gaining the confidence of the native peoples.

*Paper presented at the fourth ordinary general meeting of the V.M.A of Kenya Colony and Protectorate, Nairobi, July 21st, 1927.

This method of control is again a very expensive one, requiring a large staff and the large use of anti-rinderpest serum, as it may be necessary to repeat the inoculation two or three times, and there is no finality, because the disease may recur, as already explained, when restrictions on movement of stock are revoked.

In a country like Kenya, where rinderpest is enzootic in most parts of the country, and travelling game are susceptible to the disease, among other reasons, the simultaneous inoculation of virulent blood and anti-rinderpest serum, is, in the general opinion of this Colony, the only satisfactory control.

Most countries have adopted the simultaneous method of control of rinderpest, having first of all tried and exhausted other methods. There are countries where blood cannot be utilised on account of the religious principles of the peoples, while in others it cannot be utilised owing to the prevalence of other diseases, such as trypanosomiasis, etc., capable of being transmitted by blood inoculations.

The simultaneous method of inoculation of virulent blood and anti-rinderpest serum—hereinafter called "double-inoculation"—has been accepted in this Colony as being the only means of control to combat the outbreak and spread of rinderpest with any permanent success. This method of control is accepted by the European and native stock-owner. Double inoculations were commenced in this Colony by Montgomery in 1912. Field double inoculations have had varying successes and failures, but thanks to the endeavours of the research officers—principally Walker—the subsequent researches into the causes of the failures, a system of double inoculation is practised nowadays which is almost reaching the perfect stage.

It may be of interest to refer back a few years and glean facts from records to show how the control of rinderpest in this Colony has gradually improved and increased through the years.

1920. Rinderpest was widespread throughout the native reserves of the Colony and there were eighty outbreaks on European-owned farms. The results of double-inoculations carried out were, on the whole, satisfactory, but in individual cases the losses were abnormally high. A probable explanation of some of these cases is that the blood used in some of the double-inoculations had lost its virulency. The number of cattle double-inoculated against rinderpest during the year was 38,323, with a mortality of 6·5 per cent.

1921. There were fifty-four outbreaks on European-owned farms and rinderpest was widespread throughout the year. Owing to the difficulty of supplying virulent blood at short notice, the serum alone method was largely employed on European-owned farms. The first large native-owned cattle double-inoculations were carried out by the writer, and 19,619 cattle were inoculated with a mortality of ·9 per cent., a large number of the cattle being immune. Inoculations on European-owned farms totalled 4,363 cattle, including a large percentage of pure-breds and high grades. Deaths following inoculations were ·43 per cent.

Instructions were introduced by the Chief Veterinary Research Officer (Mr. J. Walker):—

(1) That rinderpest virus must be used within 24 hours to permit of the blood being used in a virulent form.

(2) Infecting rinderpest virus makers by the in-contact method instead of injecting the controls with virus, to eliminate the risk of inoculating the virus makers with redwater and anaplasmosis.

(3) Administration of larger doses of anti-rinderpest serum, as it was proved that the inoculation of excessive doses of anti-rinderpest serum did not interfere with the rinderpest reactions, provided virulent blood was used for the inoculation.

51,819 cattle were double-inoculated against rinderpest during the year, including 7,726 cattle on European-owned farms, 22,540 native-owned cattle and 21,553 trade stock.

1922. All native reserves were classed as enzootic rinderpest areas. Fourteen outbreaks of rinderpest occurred on European-owned farms, traceable to extension of disease from native reserves. Natives in certain reserves expressed their willingness to have their stock double-inoculated against rinderpest. 18,894 cattle were actively immunised in a native reserve, with a mortality of 3 per cent. from all causes. Double-inoculations on some European-owned farms recorded a mortality amounting to 10-13 per cent., due to redwater and anaplasmosis following the rinderpest reactions. Experiments by research officers were undertaken to determine whether the blood of sheep could convey rinderpest alone to bovines, and if it was suitable for use in double-inoculations of cattle susceptible to redwater and anaplasmosis. The results were irregular, but the experiments are being continued. Cattle to the total number of 32,114 were double-inoculated during the year, including 6,283 trade stock.

1923. The Government policy of payment for inoculations caused a set-back, as the natives had not sufficient money, and objected to pay in kind. Rinderpest was prevalent throughout the native reserves and thirty-eight outbreaks occurred on European-owned farms. Research work was curtailed owing to a shortage of officers. Experiments with sheep and goat's blood for double-inoculation purposes already reported on were curtailed, owing to the prevalence of other contagious diseases demanding priority. 15,523 cattle were double-inoculated on European-owned farms—the total for the year numbered 28,584 head.

1924. Rinderpest was prevalent throughout the year in all native reserves, and 211 outbreaks were dealt with in alienated areas. In one native reserve 1,528 outbreaks were reported, involving 26,305 head of cattle, of which only 6,707 were infected, chiefly young stock; the mortality was 4,405 head. A commencement was made to establish combined inoculation and educational centres within the native reserves where the native peoples could be taught immunisation work. Further research on the utilisation of sheep for the production of rinderpest virus for rinderpest immunisation was carried out again, but, in view of the irregular reactions, the substitution is not recommended. During the year 59,149 cattle were double-inoculated with a mortality of approximately 2 per cent.

1925. This year makes a notable step forward, as the active immunisation by the simultaneous method of control is generally accepted as the best suited to Kenya conditions.

A special Rinderpest Service commenced to double-inoculate cattle on the European-owned farms and to

train Africans in this system of control. Immunisation centres in native reserves proved successful and demands for double-inoculations for rinderpest from native stock owners increased as the method of control gained their confidence. Rinderpest was reported to be very prevalent in game. One hundred and nineteen outbreaks were reported on European-owned farms, and rinderpest was prevalent in all native reserves. Immunity testing, by a second inoculation of virulent blood on the sixth day after double-inoculation, was introduced and virulent blood not older than six hours must be used for double-inoculations. During the year 185,888 cattle were double-inoculated against rinderpest with a mortality of 2·2 per cent. The percentage of immune native-owned stock is difficult to estimate, but, assuming that 25 per cent. are immune which were double-inoculated during the year, the mortality rate then would be 2·6 per cent. of the susceptible cattle. Instructions were given that virulent blood not more than four hours old must be used for double-inoculations.

1926. Progress was maintained, as the large increase in the rate of immunisation against rinderpest in 1925 was still further increased in 1926, and the system of control by double-inoculation stands endorsed. During the year 194,306 cattle were actively immunised against rinderpest, and in addition 19,391 head were tested for immunity by the injection of rinderpest virus alone. The concentration of staff on special rinderpest work affected considerable reduction in mortality which numbered only 4,187 head. A large proportion of the mortality was due to stock arriving at the native inoculating centre suffering from the disease. Mortality following double-inoculation in stock dipped from birth was due to redwater and anaplasmosis. The incidence of rinderpest was not so marked as in former years.

Researches.—Attempts were made to cultivate the virus of rinderpest and the experiments are being continued. Investigations were made into the physical properties of rinderpest virus with a view to obtaining information in connection with the separation of the virus from the blood constituents.

1927. The prospects of the present year are equally good and the demand for rinderpest control by double-inoculation is far in excess of the scope of the available staff. It is hoped Mr. J. Walker will give us the opportunity of listening to some of his interesting researches into rinderpest during the period he has been the Chief Veterinary Research Officer of this Colony and thereby assist in amplifying the scope of this paper on the control of rinderpest.

This remarkable situation in the control of rinderpest in this Colony is the result of competent methods brought about by diligent researches and the thorough application of them. The system used for double-inoculation against rinderpest here is now controlled in such a way that high mortality is an exceptional result. In this Colony, where tick-borne disease is very prevalent, there must remain a difficulty in obtaining blood free from piroplasmosis.

Success in connection with double-inoculations depends upon an active uncontaminated virulent blood and a potent anti-rinderpest serum. In Egypt and India the research laboratories control the issue of virus ready for use by the field staff, but neither of these countries has the worry of eliminating pathogenic piroplasms from the blood. The virulent blood is sent out in preservative and ice, or in a very fresh state under seal, still containing the gases. Both methods have proved satisfactory and the virulent blood by these means can be sent long distances in tropical climates and remain virulent up to a week, as long as ice is available and the seals remain intact. The blood is guaranteed and tested virulent, and the field staff have no qualms as to the results of the inoculation because every susceptible animal injected with this virus must contract rinderpest during the double-inoculations. In this Colony, the difficulties of obtaining a suitable virus maker are very many indeed, and yet the wretched field officer is expected to find, test, and produce the material for his inoculations. So long as bovine blood must be used for double-inoculation, and so long as certain forms of piroplasms exist in cattle, communicative by the injection of blood, will there be a grave risk of producing high mortality in cattle which have been dipped from birth or reared on pastures free from tick life.

Every precaution is taken to produce a clean, virulent blood by placing controls to be used as virus makers, which have been examined for piroplasms without result, in contact with reacting animals. The blood drawn at the height of reaction, and used fresh within four hours, produces rinderpest when injected into susceptible cattle, which will in some cases break down to redwater. It is impossible to deal with every aspect of this question of providing the correct kind of rinderpest virus, but it is obvious that the present system in vogue in this Colony is the bad feature in a good system of rinderpest control. The research laboratories should have the facilities to produce the virulent virus and whether a bovine, sheep or goat blood, or any other infective material is used, this Colony should follow in the footsteps of Egypt and India and ask the research laboratories to be responsible for the control and issue of a suitable rinderpest virus. This issue cannot be avoided for, as I have pointed out, the enormous demand for rinderpest control by double-inoculation is increasing each year and must further increase as the method improves year by year. It is clear, therefore, that field officers will not be able to find and test suitable virus makers and produce virus from sources without elements of risk and uncertainty.

Anti-rinderpest serum of a potent kind is the other essential laboratory product, as the proper use, by a correct dose, means the control of the reaction to the disease in the immunising process. This Colony differs from India and Egypt in the amount of anti-rinderpest serum doses; whereas in the other countries massive doses of serum are used to block out reactions, in this country smaller doses are given to hold, but allow, noticeable reactions.

Doses of anti-rinderpest serum in Egypt are controlled by the age and not by the weight of the animal. Every animal under eighteen months old receives a standard dose of 50 c.c.; animals between the age of 18 months and 3 years receive 75 c.c., and animals over 3 years old receive 100 c.c. The dose of serum is controlled by the Director of the Serum Institute, who alters the dose on occasion; as, for instance, sucking calves may receive a minimum dose of 30 c.c. instead of 50 c.c.

In India, grade stock receive from 240 c.c. to 80 c.c. per 600 lbs. live weight according to the grade, and the native stock from 60 c.c. to 30 c.c. per 500 lbs. live weight according to susceptibility.

With a guaranteed virulent blood *plus* a massive dose of anti-rinderpest serum the mortality is usually *nil*. The reactions are blocked out and no temperatures are registered and an immunity is conferred without any doubt. In Egypt, it is recorded, in spite of the heavy dose of anti-rinderpest serum, that breakdown to piroplasmosis (redwater) is noticed in some animals. I consider the system of judging dosage by age is preferable to the system of judging by live weight, because the margin for errors of judgment as to the correct weight is greater.

Potency of anti-rinderpest serum must differ, although there is no reason to believe that the serum used in this country varies to any degree.

We have knowledge of anti-rinderpest serum from Tanganyika requiring a bigger dose than prescribed as the ordinary dose, although a protective dose for Tanganyika cattle did not protect Kenya cattle.

India recognises four kinds of serum, according to the day on which the blood is drawn. The potency of the serum is estimated on a notation based on the capacity of the serum to control completely, or otherwise, the intensity of the reaction. Class "A" serum of high potency (over 90 per cent.) is reserved entirely for the simultaneous inoculation of pure-bred and grade stock and at 90 c.c. per 600 lbs. live weight the serum must block out any reaction. A Class "B" serum of 75-80 per cent. potency is used for the double-inoculation of native stock at prescribed doses in accordance with the susceptibility of the cattle. The reactions are expected to be very mild at the higher doses, protect at the lower doses and, in any case, there should be no mortality. In this Colony, cattle are in greater variety with more varying degrees of susceptibility than in India, and I would ask if the method of annotating the potency of anti-rinderpest serum cannot be undertaken by the research officers, as the knowledge of the strength of the potency of the serum must be of considerable assistance and establish more confidence in the staff double-inoculating highly-susceptible cattle and may reduce the small mortality due to heavy reactions in high-grade stock.

In the course of this short paper I have endeavoured to explain the different methods of rinderpest control, and to give you a brief history through the recent years of the difficulties and trials of the application of those controls.

Laboratory products must be of a guaranteed quality to practice the immunisation method which will bring about a permanent control of rinderpest. There is reason for optimism in rinderpest control, as agreed upon in Kenya Colony, notwithstanding the difficulties of double-inoculation, which researches have, and will, overcome.

I am disappointed by the absence of my colleagues from Uganda and Tanganyika to-day, as I was expecting from them an interesting discussion on the methods of rinderpest control.

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Mr. J. WALKER, in opening the discussion, said that Major Brassey-Edwards had had a lengthy experience of rinderpest field immunisation, and his recent visit to Egypt and India had acquainted him with the greater difficulties experienced in rinderpest immunisation in Kenya Colony, more particularly the risk of transmission of redwater and anaplasmosis, the introduction of dipping being responsible on some farms, for some, at least, of the cattle reared thereon escaped both infections or possibly had less resistance than cattle constantly exposed to infestation with infected ticks.

It was satisfactory to know that the carrying out of recommendations made from time to time by the Veterinary Research Laboratory had simplified rinderpest immunisation, and overcome some of the complications met with in the active immunisation of cattle by the simultaneous method, which, in that Colony, had been found to be more practicable and economical.

The method of preparing anti-rinderpest serum at Kabete, *viz.*, the intramuscular injection of immune, high-grade cattle with virulent blood, at the rate of 5 c.c.s per kilo body weight, obtained from high-grade cattle of about twenty months old, and six weekly bleedings of four litres of blood between each hyper-immunisation, produced a serum of high potency, and it was decided to continue with the method and carry out research work with a view to perfecting the process of active immunisation.

Mr. Walker then reviewed the rinderpest research work which had recently been undertaken at Kabete, and the results obtained, a review from which the following points are abstracted:—

It was invariably found that the inoculation of *fresh* blood from a beast reacting to double inoculation (simultaneous method) produced, in susceptible cattle, a reaction and immunity.

The results of experimental inoculations clearly showed that large doses of anti-serum up to, at least, 45 c.cs. per 100 kilos could safely be given when *fresh* virus was used, that reactions were generally less marked at the higher doses and the risk of losses from rinderpest, and complications, such as recurrence of redwater, abortions, etc., lessened.

Large doses, 500-1,000 c.c.s anti-serum, were found to be curative if used in the early stages of the disease.

The risk of losses from inoculation was found to be greater in young cattle, calves and young weaners reared on dairy farms, than in cattle of similar age reared under ranching conditions.

The use of sheep virus was found to be of little or no assistance in the endeavour to obtain a virus free of redwater and anaplasmosis. Some susceptible cattle double-inoculated with sheep virus and varying rates of antiserum failed to react; others gave a delayed or irregular reaction, and in such cases when tested on their immunity they were found susceptible; sheep virus *alone* inoculated to susceptible cattle sometimes failed to transmit rinderpest, and no immunity was conferred.

In regard to the use of goat virus it was found that the subcutaneous inoculation of native goats with bovine rinderpest blood usually produced a temperature reaction commencing from about the third to fifth day after inoculation. Fresh blood alone collected on the fifth day after inoculation produced rinderpest in susceptible cattle (four in experiment). Fresh blood and varying rates of anti-serum, *viz.*, 15, 20, 30 and 45 c.c.s per 100 kilos, *plus* 2 c.c.s citrated goat virus produced a reaction from the fourth day. In other instances, a reaction commenced on the fifth and ninth day after double inoculation (eleven in experiment). In all cases immunity was conferred. Eighteen hours' old goat virus *plus* anti-serum at an index of 15 and 45 c.c.s per 100 kilos gave, in one instance, no reaction, in the other a delayed reaction.

It was hoped to have an opportunity of carrying out in the immediate future a double-inoculation field experiment with a fairly large number of susceptible grade cattle of about twenty month's old, using fresh goat virus and varying rates of anti-serum, and definitely to determine the value of goat virus for double inoculation.

Undoubtedly, as Major Brassey-Edwards had pointed out, the chief difficulty, at present, in rinderpest immunisation was obtaining virus free of redwater and anaplasmosis. Research work was being speeded up for the purpose of obtaining this.

In conclusion, the speaker remarked that as regarded the experiments being carried out for the purpose of obtaining a virus free of redwater and gallsickness, it was not con-

sidered that the substitution of peritoneal fluid or nasal discharge, for bovine blood, would be of much assistance.

The use of fresh peritoneal fluid or nasal discharge was not considered practicable; moreover, the virulency of both appeared to be less than fresh bovine blood and, more particularly, if other than fresh.

It seemed that under the existing conditions more attention might be given to the history of cattle on farms, prior to rinderpest immunisation, and *data* obtained as regarded their susceptibility or otherwise to tick-borne diseases, and precautions taken to select virus makers which did not produce redwater and gallsickness.

Fresh citrated goat virus had, so far, given the most promising results. The experiments were actually in progress during July when that paper was discussed; since then, they had been completed. The results clearly showed that the first passages of bovine rinderpest virus through a goat was unsuitable for active immunisation (simultaneous method), inasmuch as a percentage of inoculated cattle did not react, and no immunity was conferred in such cases. Others gave a delayed reaction.

Open-Air Dairying.

Wiltshire Downs Experiment.

Very considerable interest has been aroused in the agricultural community by the system of open-air dairying adopted at Wexcombe by a Wiltshire farmer, Mr. A. J. Hosier, and explained in a paper recently read by him to the Farmers' Club.

In 1920 Mr. Hosier purchased "an estate in a derelict state, the 1,000 acre farm consisting of poor and foul arable land and neglected downland," and in 1922 he commenced dairying with a portable outfit. He now has five herds of cows, and each herd is milked and managed by a man and a boy. A portable milking plant has been constructed for each herd, and this is moved over fields where the cows graze. The bail or shed is constructed with six stalls and between each cow is a feeding hopper for concentrates. A milking machine is installed in the bails, and this is designed specially for portable bails.

Mr. Hosier claims that the out-of-door system scores because (1) milk produced from cows living in the open is clean—the surroundings being clean—and will keep a week or more in its raw state; (2) cows kept in the open air on dry land and properly fed do not develop tuberculosis; (3) the wear and tear cost of an outdoor herd is low—the cows and their calves are healthy; (4) labour costs are low; (5) pastures are improved to such an extent that even heather covered downland can be transformed by the severe treading of the cows.

The agricultural correspondent of *The Times*, in a recent issue of that journal, stated, in reference to the presentation of the paper to the Farmers' Club:—

> "Mr. Hosier came through the ordeal well, as was to be expected by anyone who had visited his farms and seen his scheme in operation. I saw it in July, 1926, and described it in *The Times* of July 26th of that year. The project has nearly doubled in proportions since then, which in itself is evidence of success, and apparently there has been corresponding improvement in organisation and results. The enterprise has been expanded and consolidated as experience directed—the best of all guides to follow in matters of the kind—and a dairy of 320 cows, with the usual complement of young stock, managed as that at Wexcombe is with strict regard to accountancy, must be held to be an undertaking far past the experimental stage and launched safely upon a sound practical and economic basis."

The writer adds, however:—

> "The nature of Mr. Hosier's novel adventure having been outlined and its merits established, the next step is to consider the extent to which his example may be capable of successful emulation. It would not only be futile, but it might be disastrous, to conclude hastily that what has been accomplished on the downs of Wiltshire can be equalled elsewhere without due regard to the conditions of soil, climate, elevation, and topography. . . . .
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> "The conditions under which the Wexcombe enterprise has prospered—and pending further experiments it would be rash to exceed the lessons derivable from it—point to natural environment as of vital consideration. Orthodox conceptions of dairying requirements in this respect may be disturbed, but this does not alter the reasonable deduction—at this stage—that open-air dairying on Mr. Hosier's principle is practicable only on high and dry land."
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In connection with the above, we have received the following letter from Dr. H. Draper Bishop, Medical Officer of Health for Guernsey:—

To the Editor of The Veterinary Record.

Sir,—

Cattle Kept Without Shelters.

There was recently a very interesting article in *The Times* upon this subject, written by a gentleman who had had practical experience of the many advantages of such a system. He found that his herds remained free from tuberculosis. For the last twenty years I have been advocating this plan locally, and in May, 1914, was in correspondence with Dr. P. Chalmers Mitchell, the Secretary of the Zoological Society of London, upon the subject, as I felt that this opinion would be of great help to me in view of the then recently adopted open-air treatment of animals at the Zoological Gardens. His letter is as follows:

> Zoological Society of London,
> Regent's Park, London, N.W.,
> *May 6th*, 1914.
>
> Dear Sir,—In reply to your telegram, I have to say that for a number of years it has been the tradition here, as in most zoological gardens, to assume that our chief duty was to try to protect animals against the cold. Ventilation was thought of importance, but warmth was the over-ruling consideration. About 10 years ago, when I became Secretary of the Society and went into the matter, I found reason to doubt this procedure; I had a statistical enquiry made into the duration of life in captivity of over 20,000 individual mammals and birds. I found that in no case where the animals had been kept in the interior of warmed houses was there even decent success, and that the only cases where there was some approach of the figures of actual duration of life to what I knew from other sources to be the potential duration of life, were instances of creatures kept either in the open air entirely, or with the freest access to the open air at all times with no more than rain-proof open sheds. Since then we have been in every possible way keeping animals more in the open air, and the fall in death rate from tubercle has been marvellous.
>
> We have had tropical baboons and large and small monkeys living in the open air throughout the year with at the most rain-proof shelters. They have kept in splendid condition while their mates kept in heated houses, although cleanliness, ventilation, etc., are scrupulously attended to, still continue to succumb. I have not the smallest doubt but that the open air treatment is the correct one for cattle, provided of course that they have a certain amount of shelter from the wind available to them, and I should add an open-air shed here and there to give them a dry place on which to lie down; but if I had to choose I should prefer complete open air, even on an exposed field, to the interior of a warm stable.
>
> Yours very faithfully,
> P. Chalmers Mitchell,
> *Secretary.*
>
> Dr. Bishop, M.O.H.,
> Guernsey.

As Dr. Chalmers Mitchell kindly allowed me to publish this letter, I do so, feeling that evidence from so great an authority should be widely known, as it can hardly fail to carry conviction.

Yours truly,
Hy. Draper Bishop,
Medical Officer of Health, Guernsey.

Health Office,
Guernsey,
14th November, 1927.

The Veterinary Record.

3rd December, 1927.

VETERINARY "BIBLIOGRAPHY."

It is safe to say that only the abnormally casual among us would think of referring a friend for information to Thomas Smith, Birmingham—and leave it at that. There is, of course, a Post Office Directory (Index) of Birmingham that our friend could consult; but our natural common sense—not to say our innate courtesy—would prompt us to mention at what number and in which street of Birmingham Thomas Smith is to be found. We might even consider it helpful to give the number of the floor on which Thomas Smith has his rooms, or offices, or whatever they are.

Though ordinary common sense would be enough to cause us to furnish the fullest details in our possession when instructing anyone where to find a person, it is unfortunately true that many writers of articles in the veterinary press give good ground for complaint that they do not exercise sufficient care in the construction of the references to literature (or "bibliography" as it is generally, if erroneously, called) appended to their articles. For an author to say that such and such a statement is to be found in, say, the *Veterinary Record* of 1923, and to give no further particulars, means that the reader, if he wishes to consult the paper to which reference is made, must wade through an entire year's issue of the periodical named. It may be, of course, that there is an index of author's names that can be consulted, but this task should not be imposed upon a reader. Some readers, even, seem to have an inborn antipathy to indexes. Similarly, reference to a published book, without mention of the page or pages, does not furnish all the help that the reader may reasonably expect. And even a page reference may not be helpful—indeed, it may cause annoyance—if the book has passed through more than one edition. The writer may refer to one edition and the reader may consult another in which the matter on any given page is different.

References to literature may be given in one of three ways. (1) They may be incorporated (within brackets) in the text of the article; (2) they may be given in footnotes; or (3) they may be given in a numbered list at the end of the article, corresponding numbers being inserted at appropriate points in the text. The first method is not satisfactory, unless the references are few and infrequent. In the first place, it spoils the appearance of the page; and secondly, it interferes with easy reading. The second method is better. But there are readers who do not like footnotes because they are apt to attract the eye unduly and so distract attention from the text. Probably most readers will hold the third method to be most suitable for general use in scientific articles. Whichever method is used is a matter of minor importance. What really is of consequence is the manner of construction and the amount and accuracy of the information given in each reference.

Some scientific journals make it a rule that the "bibliography" of every paper they publish must be constructed according to a definite model, and it would be well if the veterinary periodicals of this country were to follow their example. In the absence of any hard and fast rule, each writer will naturally follow the plan that he thinks best; and, provided the information given is sufficiently full and accurate, no really valid objection to his doing so can be raised. There are, however, some writers who evidently have not as yet formulated a definite scheme, and there are those who do not fully appreciate the purpose of a "bibliography." To these, the suggestions contained in the following examples may possibly be useful.

(1) BULLOCK, F. "Veterinary Bibliography." *Vet. Rev.*, Vol. IV, No. 1, 1920, pp. 1—8.

(2) BULLOCK, F. "Veterinary Bibliography." *Vet. Rev.*, 1920, IV, 1—8.

(3) DELMER, A. "Sur la *météorisation aiguë* des ruminants." *Rec. Méd. Vét.*, 1918, XCIV, 230.

(4) BAYLISS, W. M. *Principles of General Physiology.* 2nd edition. London: Longmans, Green and Co. 1918. pp. XXIV + 858.

(5) BAYLISS, W. M. *Principles of General Physiology.* 2nd edition, 1918. p. 24.

(1) Reference is here made to a complete article. It is not essential to set out the details of the periodical in which an article appears at the length given in this example. An abbreviated, but still sufficiently complete reference is given in example (2).

(3) Here attention is called to a specific statement made on a certain page of a journal. This saves the trouble and time that would otherwise have to be expended in a search through an entire article that may possibly be of considerable length and of incommensurate value. The title of an article should not be given in italics (the title of a journal should); but if the author, for a reason that appears sufficient to himself, gives a part of his title in italics, this should be indicated in the reference.

Whether the title of a paper should be given within quotation marks, is a matter for individual determination. The use of quotation marks is certainly justifiable on the ground that the actual words of the author are being quoted. It is scarcely necessary to say that no liberties should be taken with a title: it should be given exactly as the author gives it, but a translation, within brackets, may be added if considered necessary.

(4) Reference is here made to a book as a whole. Though the title of an article may be omitted, the title of a book, naturally, must always be given.

(5) This calls attention to an assertion on a certain page in a certain edition of a book.

CLINICAL AND CASE REPORTS.

Plaster Collar Method for the Treatment of Injuries of the Ear of the Dog.

By G. B. Brook, M.R.C.V.S., Edinburgh.

Wounds of the ear of the dog are extremely difficult to treat effectually; although simple, they may defy treatment over long periods, some, indeed, proving totally incurable. Treatment is not only desirable because the condition is painful and annoying to the animal concerned, but because the latter, on shaking the head, is apt to spread blood in all directions.

In default of a cure an owner will often prefer to have the patient destroyed rather than tolerate such a state of affairs in a house.

Three factors militate against successful healing, *viz*:—

1. The ear is difficult to confine in bandages because of the movements of the head and neck.

2. Cartilage, which is slow in healing, may become involved and in long-standing cases proceed to a state of chronic ulceration.

3. The injury is often allowed to reach a chronic stage before treatment is sought.

Reviewing these three factors, one realises that a method which will ensure retention of the ear within dressings is the primary desideratum. With this accomplished, the majority of recent injuries could be induced to heal. Moreover, should a chronic lesion refuse to respond, resection of the tip of the ear could be undertaken with confidence in the knowledge that during subsequent healing control of the ear is ensured.

Whilst acting as assistant to Professor Mitchell, of the Royal (Dick) Veterinary College, the writer had occasion to try a method which proved to be of definite value. A plaster of Paris cast is fitted round the neck of the patient, the ear being laid back upon the cast and bandaged in that position.

The plaster forms a solid basis upon which to apply dressings and bandages.

The Procedure in Detail.

The dog must be prevented from moving the head and neck. This can be accomplished if an assistant steadies the head by grasping the nose and keeps the hind quarters of the dog in a corner.

A thick, unbroken pad of wool is placed round the neck, extending well beyond the proposed limits of the collar. A three inch Domette bandage, thoroughly soaked in water, is applied over the wool. The bandage should be sufficiently tight to prevent the completed collar from revolving round the neck. It has been found that this bandage can best be maintained in correct position and with uniform pressure when soaked in water before application. The layers of bandage should be carried well up to the base of the ears and as far down the neck on to the shoulders as possible. Two inch or three inch cotton bandages are now put on layer upon layer, plaster of Paris mixed with water to a suitable consistency being applied liberally.

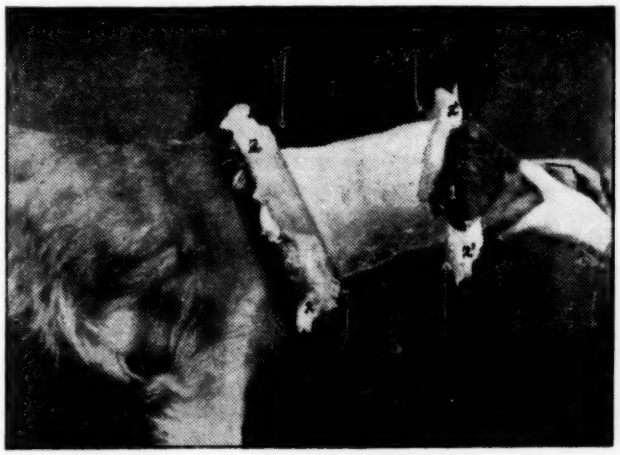

Fig. 1. Plaster collar in position (arrows indicate its boundaries).
1 Ear (right).
2 and 2¹ Projecting wool interposed between neck and collar.

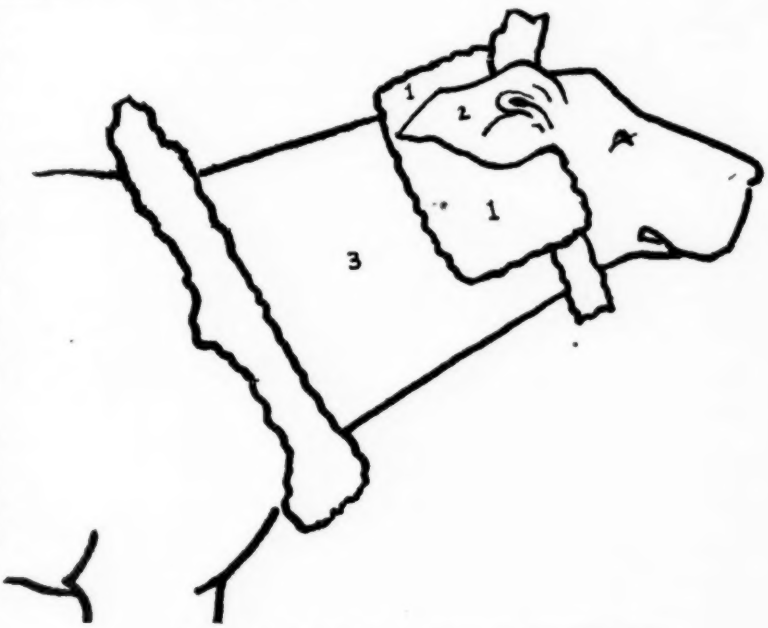

Fig. 2 Ear in position prior to bandaging.
1 First pad of wool.
2 Ear to be treated.
3 Plaster collar.

Four or five bandages and about two-and-one-half pounds of plaster are necessary to make a collar for an adult Airedale. Plaster which sets firmly and rapidly is, of course, desirable.

The collar should be left to harden for one day. If at the end of that period it is satisfactory, bandaging of the ear can be commenced.

Bandaging of the Ear.

A pad of wool is placed upon the surface of the plaster in such a position that the ear, when laid back, will rest upon the wool. The pad should be so disposed as to prevent the ear from being chafed by the anterior border of the plaster collar.

The ear is laid back (Fig. 2) so that its under surface becomes uppermost, and dressings to be used are applied to the lesion under treatment. A thick resilient pad of wool is now laid over the part, extending well on to the temporal region in front and over the plaster collar behind. To keep the ear in position, *i.e.*, from slipping forward, it has been found that the following method of bandaging is the most satisfactory. Consider the case of the right ear. Place the free end of a three-inch cotton bandage on the uppermost pad of wool just in front of the base of the ear in question. Keeping the bandage moderately tight, carry it over the upper surface of the plaster collar towards the left side and in a backward direction to pass behind the opposite ear. (Fig. 3.) Returning below the neck, the direction is reversed, *i.e.*, to the right and forward to reach the starting point. Further bandaging is performed in a similar manner, working slowly backwards until the whole of the ear from base to tip is invested.

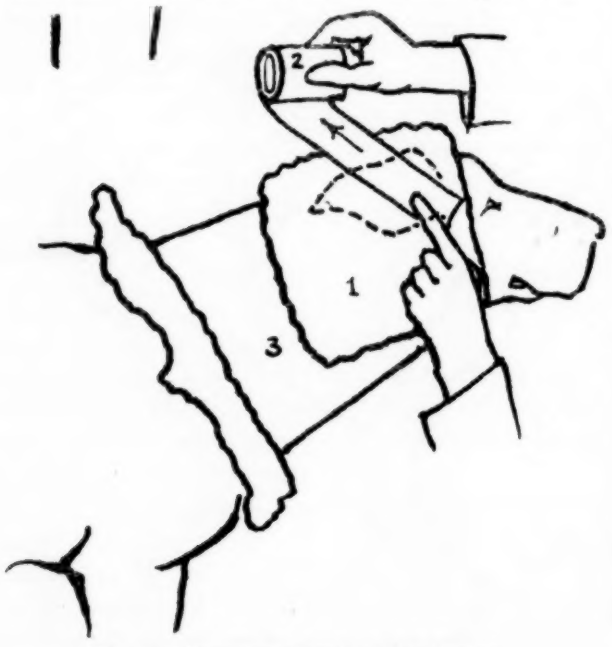

Fig. 3. Commencement of bandaging.
1 Uppermost pad of wool.
2 Bandage.
3 Plaster collar. (Dotted line indicates position of ear under wool.)

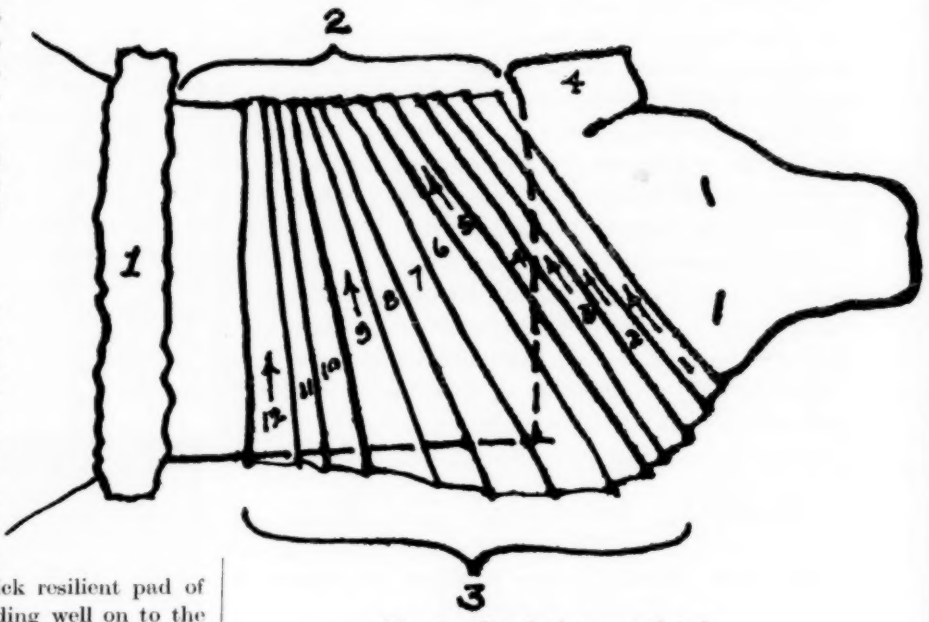

Fig. 4. Bandaging completed (viewed from above.)
1 Projecting pad of wool interposed between neck and collar.
2 Extent of plaster collar, indicated also by dotted line.
3 Extent of bandaging. Note obliquity.
4 Left ear.

The obliquity of application should be gradually diminished until at the most posterior limit the direction is transverse.

More layers can be applied, but anteriorally the bandage must again be disposed diagonally.

By removal of the bandage the ear may be dressed once or twice daily. This should include cleansing of the external meatus with some suitable antiseptic (*e.g.*, H_2O_2) and subsequent drying. Whilst the ear is free it is essential that the dog be prevented from shaking the head and so deterring the healing process. Usually, two three-inch cotton bandages suffice to keep an ear safely in position, although Domette bandages, giving a more uniform pressure, are to be preferred. With fractious patients an Elizabethan collar may prevent the tearing off of bandages.

When healing appears to be complete, do not remove the plaster collar immediately. Liberate the ear for two days with the outer surface of the collar padded with wool to prevent fresh injury. If resolution is maintained, remove the collar and five a further two days' trial before discharge.

Complications.

1. Not infrequently, within twenty-four hours of the application of the bandages an excessive secretion of sebaceous material takes place within and around the external meatus. This does not appear to cause trouble provided the ear cavity is cleansed regularly with H_2O_2 and then dried. The condition rapidly clears up when the bandages are discarded.

2. What one might term "pressure necrosis" of a small area of the skin of the ear is occasionally seen. Usually on the inner surface, it takes the form of a small breakage in the skin. It is remedied by a more liberal padding with wool, slacker bandaging, and the application of a little dusting powder to the lesion.

3. Congestion of the ear, with associated heat and swelling, is relieved by the same means as for "2." A

little massage at the time of bandaging, and the dressing of ears twice daily, will help.

No injury to the skin of the neck due to the friction of the collar has been noticed.

Contra-indications.

1. Where there is any suggestion of otorrhœa, treat and cure this first. Otherwise it will become markedly aggravated and lead to further trouble.

2. A dog is occasionally encountered which will not tolerate the collar, or is so worried by its presence as to refuse all food. In such a case the plaster has to be removed and other devices adopted.

3. The method is not successful with dogs which have a long, supple neck covered by loose skin, *e.g.*, Great Dane. The mobility of the skin permits of a rotation of the collar which is difficult to counteract and invariably allows the ear to escape from the bandages.

Analysis of Cases.

Total number treated (during a period of 8 months)	25
Lesions of recent origin	17
Chronic Lesions	8
(Had been in existence 2 months to 5 years).	
Number of Resections (Professor Mitchell) ...	9

N.B.—Of these 7 exhibited lesions of a chronic nature.

Average Duration of Treatment.

Lesions of recent origin	15 days.
Resections	18 days.

Breeds, etc.

The development of chronic lesions did not appear to be related to age, breed, or, as some suggest, to a co-incident generalised unhealthy condition of the skin.

Results.

At a minimum of eight weeks after discharge the subsequent history of each case was ascertained. In one instance—that of an Airedale—further trouble had occurred. A minute fissure developed at the site of the resection, persisted for six weeks with the usual hæmorrhage and then healed up spontaneously.

In the series of cases this represents a failure of 4 per cent.

In thick-coated breeds, *e.g.*, Airedale, the altered outline of the ear occasioned by resection is adequately disguised by the subsequent growth of hair which occurs along the site of operation.

I am indebted to Mr. J. W. Ritchie, A.R.I.B.A., for the drawing of Figs. 1, 2 and 3.

Salt Poisoning in Fowls.

By J. J. Collins, M.R.C.V.S., Altrincham.

Subjects.—Thirty pure-bred Rhode Island hens in good condition and most of them laying.

These fowls had been fed on a mixed poultry food supplied by a local dealer with good results. When the food ran short a new lot was ordered from the same dealer and the hens had their first meal of it in the evening, before retiring to roost.

When the owner visited their pen the following morning, she found quite a number of the hens lying dead on the floor as if they had fallen dead off the perch. Those that were still alive were all obviously very ill.

Symptoms.—The symptoms were practically identical in all the birds, the only variation was one of degree. A few of those alive remained on their perch, but the majority were on the floor and, mingling with those already dead, presented a sorry spectacle. Some sat huddled up, their beaks resting on the gounds, with their necks forming a sort of a semicircle; others lay on their sides with their heads twisted backwards, kicking their legs and flopping their wings spasmodically, whilst others were still able to stand up, and from these, especially, a semi-liquid, yellowish-coloured diarrhœa was very noticeable, although nearly all of them had soiled their nests with this discharge. They would all emit a most peculiar screech periodically, accompanying it with violent flapping of their wings, and gave one the impression generally of being in great pain.

Later the birds seemed gradually to become comatose and lay so quiet that without very close examination one would have said they were dead.

The mortality with these birds within forty-eight hours was 100 per cent.

Surgical evacuation of the crop was tried with some of the birds in a less advanced stage of the illness without making any difference to the ultimate result. All the birds had their crops distended with food. The contents of the crops, and the food itself, were analysed, and after poisons, such as phosphorus, arsenic, and oxalic compounds, had been eliminated, it was found that the food contained just over 20 per cent. of common salt, which was no doubt the cause of this heavy mortality, because of avian susceptibility to salt poisoning.

REVIEW.

[**Topographical Anatomy of the Dog,** By O. Charnock Bradley, M.D., D.Sc., M.R.C.V.S., Principal, Royal (Dick) Veterinary College, Edinburgh. Second Edition, 1927. Oliver and Boyd: Edinburgh, Tweedale Court; London, 33 Paternoster Row, E.C.]

This is a book which we welcome; it is a worthy member of the Edinburgh Series. With the increasing importance of the dog in veterinary science, one can predict that the modern and future veterinarian will count this book amongst the absolutely essential ones in his library.

In his works on the dog, the author has been to a great extent a pioneer and consequently he has avoided the perpetuation of inaccuracies which in many anatomy books are copied one from another. It is pleasing to look through the pages, to find beautiful and realistic diagrams and plates, and at the same time to note the absence of "From . . . and . . ."—acknowledgments to other authors.

The subject has been treated in the topographical sense, *i.e.*, as one comes upon the bodily structure during dissection. It could, however, quite easily be used as a systematic or regional treatise and so we are sure it will be of inestimable value to the student, the surgeon and the comparative anatomist.

Throughout the book the author has made use of simple English and a judicious admixture of old and new terminology—a fact that will make the book much more useful to the average reader than are some of the so-called modern books which are written in an unintelligable "New Terminology." We can confidently recommend the book to the Veterinary profession.

ABSTRACTS.

[Sarcoptic Mange in Bovines: its Transmission to Man M. Huynen in *Annales de Méd. Vét.*, February, 1926· *Ex. Rév. Vét.*, May, 1927.]

Sarcoptic mange in the ox is rarely due to a special parasite. In most cases, it is the result of transmission to bovines of sarcoptes from another species: the dog, cat or horse. M. Huynen had, however, occasion to observe a form of sarcoptic mange due to a large sarcopt special to the ox, incapable of attacking the horse, but transmissible to man, in whom it causes an affection localised usually in the fore-arms and arms, but which sometimes spreads over the whole body.

In bovines, the lesions are situated on the hind-quarters· Depilations appear about the buttocks, the perinæum· the base of the tail. They extend forward sometimes, attack the crupper, the back, the withers, but the head always remains immune. In the cow, they attack also the inside of the thighs and the udder. In diseased parts, the depilated skin is covered with pellicles and thickened—it even forms folds in places (tail, withers, neck and shoulders).

This affection is contagious and obstinate. It seem[s] to disappear in the fine season, to appear again in winter. The author recommends the following treatment:

Peru balsam } *aa* 10 gr.
Salicylic acid }
Vaseline ... 100 gr.

The treatment should be applied for three consecutive days. On the fifth day, the skin is cleaned by washing with soap, and two days later the treatment is begun again on the parts which are not cured. Recovery is effected in a fortnight.

R. L. Higgins.

[On the use of Essence of Turpentine for the Horse. M. Saint-Etienne in a thesis for the Doctorate in Veterinary Science, Toulouse, 1926. Ex. *Rév. Vét.*, May, 1927]

Essence of turpentine may be injected without any danger into the jugular vein of the horse in daily doses of 2 to 3 c.c. Its partial elimination through the mucous membrane of the lungs makes it an ideal remedy in affections of the respiratory organs; the author attributes to it the cure of a certain number of grave cases of equine typhus with pulmonary localisations. Besides its oxidizing power, which is not negligible, essence of turpentine has the property of developing, in the few hours or days following its introduction into the blood-stream, considerable hyperleucocytosis, the anti-microbic action of which appears in a rapid fall of fever and the regression of disturbing symptoms. Subcutaneous injections and the abscesses they produce have analogous, but less rapid results. Intravenous injections must therefore often be preferred, since they are easy, painless, and do not involve the troublesome consequences of an abscess.

R. L. Higgins.

[Microbes of the Putrefaction of Eggs. M. Tissier at a meeting of the Société de Biologie, February 20th, 1926.] Ex. *Rév. Vét.*, May, 1927.)

The putrefaction of eggs takes place according to the same laws as that of meat and milk. Approximately the same microbes are found, but the difference of medium gives a special character to the fermentation.

Certain putrefying bacteria in eggs are very close to *Bacillus paratyphosus* β: the morphological and chemical properties are the same, but these bacteria are not agglutinated by the serum *Para* β and have not the toxic and pathogenic properties of *Paratyphosus* β.

As they act more particularly on the amines, these bacilli might be given the name *B. thioaminophilus*: they exist in 50 per cent. of "black" eggs, and cannot be shown in fresh eggs.

Are they the cause of poisoning caused by cream cakes? It is still impossible to say.

R. L. Higgins.

Cattle Disease.

Missions to Australia and South America.

Lord Bledisloe, Parliamentary Secretary to the Ministry of Agriculture, is leaving on his mission to South America on December 21st. He will confer at Buenos Ayres and Montevideo, on behalf of the British Government, with representatives of the Argentine and Uruguayan Governments concerning measures for the control of animal diseases, which those countries propose to adopt to remove the risk of transmitting foot-and-mouth disease to this country.

At the invitation of the Government of Australia, early next year Sir Arnold Theiler, Director of Veterinary Education and Research, Union of South Africa, and Dr. J. B. Orr, Director of the Rowett Institute, Aberdeen, will visit Australia to consult with the Australian authorities in regard to Australia's pastoral problems. The importance of the pastoral industry to Australia will be gauged from the fact that the annual production is valued at £170,000,000 per annum, of which £90,000,000 is exported.

"A statement issued from Australia House points out," says *The Times*, "that Sir Arnold Theiler achieved remarkable success as the result of his investigations on animal diseases at the Onderstepoort veterinary research station. His investigations are of particular interest to Australia, and his visit should prove of great advantage in connection with investigations in the whole problem of animal health now being carried out under the Commonwealth Council for Scientific and Industrial Research.

"Dr. Orr, it is observed, is recognised as one of the greatest authorities on the subject of animal nutrition, and under his direction the Rowett Institute has become one of the best-known centres within the Empire for the study of the problem. In the course of his investigations Dr. Orr has visited Kenya, South Africa, and Palestine, and stands in a unique position by reason of the practical knowledge he has gained of this important phase of animal husbandry. The Empire Marketing Board is co-operating with the Commonwealth Government in regard to Dr. Orr's visit.

"The visits of these and other distinguished scientists to Australia indicate that the Commonwealth Government is determined that the Commonwealth Council of Scientific and Industrial Research shall have the advantage of the experience and advice of the highest authorities on the problems which the Council has set out to investigate."

DIVISIONAL REPORTS.

Yorkshire Division.*

ANNUAL MEETING AT LEEDS.

The annual meeting of this Division was held at the Hotel Metropole, Leeds, on Friday, 28th October, 1927, with the President, Mr. W. A. Campbell, in the chair. There were also present Messrs. Gentle, Sampson, Halstead, Dixon, Ellison, Whitehead, McCarmick, Bowes, Clarkson, Carter, Procter, Robinson, Abson, Crawford, McKinna, Jun., Watson, Pollard, Scott, Vine, Gillespie, Barber, Good and Hall (Hon. Secretary). *Visitor.*—Mr. R. S. Smyth.

Apologies for non-attendance were received from Professor Bradley, Messrs. Croudace, Pillers and Fletcher.

The minutes of the last meeting were taken as read.

The Hon. Secretary read a letter from the National Veterinary Medical Association in answer to the resolutions passed at the last meeting in regard to the method of preparing animals for slaughter in the Jewish style, and also in regard to students, both of which matters had been referred to a committee for consideration.

New Members. The following gentlemen were nominated as new members :—Messrs. R. S. Smyth (Harrogate), and W. T. McGregor (Skipton), while Messrs. Pollock (Hemsley) and R. R. Dalling (Wike, near Bradford), were elected to membership.

The Hon. Treasurer presented the balance sheet, which was adopted on the motion of Mr. Bowes, seconded by Mr. Whitehead.

ELECTION OF OFFICERS.—The following officers were then elected for 1927-28 :

President :—Mr. W. Ackroyd ; proposed by Mr. Campbell, seconded by Mr. Clarkson.

Vice-Presidents :—Messrs. W. A. Campbell, Dixon and McKinna (Jun.).

Secretary :—Mr. T. C. Hall.

Treasurer :—Mr. A. McCarmick.

Auditors :—Messrs. Crawford and Barber.

Council (elected by ballot) :—Messrs. Bowes, Bowman, Clarkson, Ellison, McKinna, Pollard, Scott and Whitehead.

Mr. W. Ackroyd, the new President, arrived during the election of officers, and took the chair.

R. V.C. Re-building Fund.—Mr. SCOTT proposed that a donation of £10 be given to the Building Fund of the Royal Veterinary College. This was seconded by Mr. SAMPSON, and carried unanimously.

Morbid Specimens.—Mr. GENTLE produced a specimen of an interesting case—the heart of a dead pig, to which he had been called the previous morning, in which he had found vegetations on the valve at the left side of the heart. The specimen was passed round for inspection.

Mr. PROCTOR said he had seen a similar specimen a few weeks earlier, which had been shown to him by a medical man, who diagnosed it as a tuberculous heart. He had told him it looked like swine erysipelas.

Joint Meeting.—Mr. RABAGLIATI said he had been asked by the Yorkshire Branch of the Medical Officers of Health Society to give them a paper, and the Secretary of that Society had extended, through him, an invitation to the members of the Yorkshire Veterinary Medical Society to be present at a joint meeting. He thought the suggestion a most excellent one, as he felt the medical profession had a great deal to learn from the veterinary profession, and it was a good thing that they should get in touch with each other and discuss common problems.

The CHAIRMAN said there was only one answer to the proposition, and that was they would be delighted to accept the invitation.

Mr. BOWES expressed the view that it was highly important that such meetings as that proposed should be held, because medical men did not always appreciate what the training of the veterinary surgeon was.

Mr. CLARKSON seconded, and the motion was carried unanimously.

A Paper was then read by Mr. D. S. Rabagliati, O.B.E., B.Sc., F.R.C.V.S., D.V.S.M., on " Some Obligations on the Veterinary Practitioner in regard to the Scheduled Diseases of Animals." [This paper, together with the ensuing discussion, receive publication at the commencement of this issue.—ED.]

A vote of thanks was accorded Mr. Rabagliati, on the proposition of Mr. BOWES, and a similar tribute was paid to the President and Officers for their work during the past year.

The proceedings then terminated.

T. C. HALL, *Hon. Secretary.*

*Received on 15th November.

V.M.A. of Kenya Colony and Protectorate.

At the fourth ordinary general meeting of this Association, which was held in the Library of Kabete Veterinary Research Laboratory, on 27th and 28th July, 1927, Mr. J. Walker was in the chair, and the following Fellows signed the attendance book :—Messrs. Daubney, Whitworth, Dixon, Wheeler, Bradshaw, Beaumont, Hudson and Brassey Edwards. Apologies for unavoidable absence were received from Messrs. Mulligan and Hale.

The minutes of the third ordinary general meeting were read and confirmed.

Mr. R. W. Mettam was proposed and seconded a member of the Association.

Arising out of the Minutes, the meeting was informed that the Council had decided that the question of the publication of a veterinary journal in Kenya should remain in abeyance for the present in view of the weight of opinion expressed by the Fellows at the last meeting.

Re Pan-African Veterinary Conference, the meeting approved of the action of the Hon. Secretary in his endeavour to arrange for the next Pan-African Conference to be held in 1928, at Victoria Falls, Northern Rhodesia.

A letter was read from the Colonial Secretary in reply to the petition addressed to the Under-Secretary of State. The reply was considered unsatisfactory and the Secretary was instructed to communicate with the Veterinary Departments of Uganda and Tanganyika, with the object of sending a joint petition to the Under-Secretary of State *re* anomalies of salaries.

The arrangements for the fifth ordinary general meeting were left in the hands of the Council.

Mr. H. H. BRASSEY EDWARDS, Hon. Secretary, then presented his paper on "Rinderpest Control." As the paper had been previously published, the writer prefaced his paper with a few general remarks. [This paper is reproduced elsewhere in this issue.—Ed.].

The CHAIRMAN opened the discussion and the following also took part: Messrs. Daubney, Whitworth, Wheeler and Hudson.

Mr. R. DAUBNEY addressed the meeting on "Bovine Lymphangitis" and "Some Intestinal Parasites of Sheep."

Dr. S. H. WHITWORTH gave the meeting information in regard to East Coast fever immunisation and its application in Kenya.

Mr. J. R. HUDSON produced observations on the temperature reactions, the microscopical examination of the blood and the blood changes produced in newly-born calves reacting to redwater, and further observations of the temperature curves, and microscopical examination of blood of normal calves. A short discussion followed each address.

The usual votes of thanks to the Chairman and to ladies for providing tea concluded the meeting.

H. H. BRASSEY EDWARDS,
Hon. Secretary.

America Lauds and Criticises Professor Bang.

In its account of the 64th Annual Meeting of the A.V.M.A., held in Philadelphia in September, *Veterinary Medicine* (Chicago) says:

"Of course, an outstanding feature of the meeting was the attendance of Prof. B. Bang of Copenhagen, and his discussion of Tuberculosis in Cattle. We were greatly pleased by the presence of Prof. Bang, and felt honoured that he should thus a second time visit our country. Because so much was expected from this world-wide authority on tuberculosis, Dr. Bang's discussion of tuberculosis in cattle proved the major, almost the only, disappointment of the whole meeting.

"In the opinion of most of those who heard him, Prof. Bang harked back to the views, the understanding and the methods of the closing years of the nineteenth century, and touched not upon the twentieth century matters. Fortunately, he furnished the facts to confute every argument that he advanced for European methods for handling tuberculosis in cattle, and his discussion is not likely to seriously embarrass the American tuberculosis eradication project, when it is published in full and considered as a whole.

"In short, Prof. Bang still advocates the method proposed by him at Budapest at the International Congress for Hygiene and Demography in 1894, and slightly altered at the International Veterinary Congress at Baden-Baden in 1899. The plan he advocates is essentially but a slight modification of the "Bang method" that has been tried in America many times with uniformly unsatisfactory results, and which in thirty years has not succeeded in eradicating tuberculosis from a single country in Europe or any area within a country of considerable size.

"To quote: 'I will maintain that the safest way of rooting out tuberculosis in a herd, that has long been infected, is to put the newborn (and perhaps also some very young) calves in a separate, clean room and feed them on tuberculosis-free milk. Such calves will easily be kept free from tuberculosis in nearly all cases.'

"And again: 'I do not at all wish to criticise your methods, but you may easily understand that I feel a little astonished to see that you think it necessary to slaughter all reacting animals, even if they do not show the slighest symptoms of tuberculosis except the reaction.'

"And again: 'If you are rich enough not to consider the expense, I do not at all object to your method, but I want to emphasise that it is possible to attain the goal in a much cheaper way—as we poor Europeans are obliged to try to accomplish it. I know there are, in your country, some farmers who oppose your method. I have of course no idea at all of the power of this opposition, but if there might come a time when the government was no longer so ready to cover the expenses as it has been for years, I dare to draw your attention to the plan just pointed out to you.'

"The plan referred to is not to test highly infected herds at all, but to remove the calves when dropped to a separate part of the barn and to raise them on tuberculosis-free milk. He states that in this way a highly tuberculous herd can be changed to a tuberculosis-free herd in four to six years, inferentially at only the cost of a partition in the barn, which he states in one case where the method was successfully applied amounted to only $2.50.

"Although Prof. Bang cited figures to show that a tuberculosis-free herd would produce an average of 77 pounds more butter per cow per year, than a similar herd would produce if infected, he does not draw the obvious conclusion that a large number of infected cows, but not clinical cases, are what the dairymen term 'boarders' and thus their removal from the herd is an actual gain to the dairyman aside from any consideration of eradication of the disease, the gain in removing such boarders probably more than offsetting any loss sustained by the removal of affected animals that might for a few years, or even longer, return a profit on the feed and care and shelter given them.

"If there is anything in the old saying about a tree being known by its fruit, Prof. Bang brought with him facts that not only justify the American methods which he regards as unnecessarily expensive, but the strongest possible argument for our relying upon those methods to the exclusion of others; for, notwithstanding the professor's great prestige in his own country and his thorough understanding of the method he advocates, together with the low cost of and ample supply of labour in his country, almost no progress in ridding the country of tuberculosis in cattle has been made in thirty years; yet Denmark is but one-third as great in area as Pennsylvania and its population, less than half of that of Pennsylvania, does not equal that of Massachusetts, nor has the adjoining country of The Netherlands made any better progress, notwithstanding its proximity to the place where the 'Bang method' originated, and the prestige which Prof. Bang enjoys among his neighbours scarcely less than that at home. In area, Holland is but half of South Carolina, its population less than that of Illinois.

"Prof. Bang's lecture strongly emphasised what the eradication of repeated outbreaks of foot-and-mouth disease had previously shown, and that is, that the best live stock sanitarians of Europe could, if they would, sit at the feet of the live stock sanitarians of America and learn much."

MILK AT THE CONSUMERS' END.

"The chairman of the Leicestershire C.C., Lt.-Col. R. E. Martin, has directed attention to the consumers' responsibility in the matter of the keeping qualities of milk," says *The Farmer and Stock Breeder*. "In these days when we hear so much about dairy orders, the improvement of cowsheds and of farm dairies, little is said about the consumers' end of the chain. We are satisfied that the average farm dairy is far ahead of the average dwelling-house in this respect. A very small proportion of urban dwelling-houses have reasonable conveniences for keeping milk. The milk jug has normally to herd with the miscellaneous contents of a larder leading out of a hot kitchen. And, further, the average housewife has little appreciation of the bacteriological cleanliness necessary to give milk a reasonable chance of keeping in good condition for twenty-four hours.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest fo inclusion in these columns.

Diary of Events.

Dec. 5th—Meeting of the Editorial Committee, N.V.M.A., 4-30 p.m.
,, 5th and 6th—D.V.S.M. Oral Examinations.
,, 13th—R.C.V.S. Membership Examination—Written.
,, 15th—R.C.V.S. Membership Examination—Oral.
,, 15th—Meeting of the Lancashire Division, Grand Hotel, Aytoun Street, Manchester, 3 p.m.

1928.

Jan. 11th, 12th, and 13th—R.C.V.S. Committee and Council Meetings.

Foot-and-Mouth Disease.

At a recent meeting of the Association of Economic Biologists, Mr. F. C. Minett, of the Institute of Animal Pathology, Camden Town, gave a brief description of the clinical character and course of foot-and-mouth disease as it affected susceptible animals, and reviewed recent experimental work in regard to infectivity, and to the viability of the virus. Dr. A. Arkwright, of the Lister Institute of Preventive Medicine, referred to the similarity of the disease as produced in guinea pigs, to that affecting cattle, sheep and swine. Cats and dogs could not be readily infected by inoculation or feeding, and even when small vesicles appeared after the administration of large doses those animals did not pass on the disease to their kind. In spite of numerous researches in different countries, all attempts to propagate the virus in its tube had failed; the virus had only been observed to multiply in the living tissues of an animal.

Dr. S. P. Bedson, of Hale Laboratory, London Hospital, spoke on the physical properties of the virus, filtration, &c., and prophylactic vaccines; Mrs. Y. M. Burbury, of the Lister Institute, on the survival of the virus outside the body; and Mr. I. A. Galloway, of the National Institute of Medical Research, on demonstrations of the lesions of the disease in guinea pigs.

. . . . . .

In the House of Lords recently, replying to Lord Stanley of Alderley, who asked if the Government could give any information regarding the reported outbreak of foot-and-mouth disease in the New Forest,

Lord Bledisloe (Parliamentary Secretary to the Ministry of Agriculture) said that there was no doubt a certain amount of alarm in the public mind, occasioned, perhaps, by somewhat exaggerated paragraphs in certain organs of the Press in relation to a series of outbreaks of foot-and-mouth disease in the neighbourhood of the New Forest. There was no area in the kingdom where risk of the spread of the disease was greater than the New Forest. The first outbreak occurred on November 15th. Already there had been 14 outbreaks, all within the scheduled area of 15 miles, and the Ministry believed that the likelihood of the disease spreading outside that area was remote. The centre of the outbreak was Totton, and it had involved bringing within the restrictive area the port of Southampton. The number of animals slaughtered or condemned to be slaughtered was about 118 cattle and 238 pigs. The lesions present in certain of the cases clearly indicated that the disease had existed in the area for from two to three weeks before it was actually reported. The question of legal proceedings against owners for failing to report was now under consideration.

The New Forest ponies might possibly act as mechanical carriers of the disease, but it was found to be impracticable to round them up, as it would take several weeks, and would involve a risk of spreading the disease in the operation. It had, therefore, been arranged for police officers to patrol the outside boundaries of the dangerous areas on motor-cycles, night and day, to keep the ponies to the confines of the Forest so far as possible. Several hundred deer were scattered throughout the Forest. The infected area covered the normal range of the deer, and it was not considered necessary to take action in regard to them at present. The Master of the New Forest Staghounds and the Forestry Commission had offered to co-operate in organising a drive for the purpose of shooting a certain number of deer, to ascertain whether any of them had contracted the disease. Deer would contract the disease, but not so readily as cattle and sheep. The verderers had also loyally co-operated. The Department believed the policy of slaughter to be well justified. There was no reason at present, at any rate, for alarm that the outbreak would spread to a wider area.

Replying to Lord Montagu of Beaulieu, Lord Bledisloe added that the Ministry had been unable to trace the source of the disease in this case. Every care had been taken to examine the stock in the local markets and that which had passed out of the markets and there was no reason to suppose that the disease had been spread from market to farm.

. . . . . .

In a written reply to Sir Frank Nelson, Mr. Guinness gives a statement, compiled from official bulletins, showing that the numbers of outbreaks of foot-and-mouth disease in various European countries between January 1st and October 31st were: France, 3,572; Germany, 11,004; Holland, 633; and Belgium, 633.

. . . . . .

The number of foot-and-mouth disease cases notified to November 7th in 1927 in Great Britain was 62, and the total Government expenditure in connexion with them was approximately £72,000.

R.C.V.S. Obituary.

Robertson, Francis, M.R.C.V.S., Eden Street, Oamaru, Otago, New Zealand. Graduated, Edinburgh, April, 1870. Died, 28th September, 1927. Aged 88 years.

Personal.

Engagement. An engagement is announced between Captain George Mervil Stirling Webb, Adjutant, 5th Battalion, 2nd Punjab Regiment, and Margaret St. Clare (Peggy), daughter of Mr. W. M. Scott and the late Mrs. Scott, Friarn House, Bridgwater.

Concerning the Horse.

The breeding of heavy horses has ceased to be the valuable adjunct to progressive farming that it was two decades ago. Owners of breeds of heavy horses are feeling the difference keenly, and are exercised to know what course can be adopted to ease the situation arsing from the loss of the former excellent market for heavy draught horses. The position is difficult and unfortunate, since it deprives farming of a market of great value for an excellent class of stock. But motor transport has restricted demand for heavy draught horses on the roads and streets. Shire breeders have been considering the situation, but without suggesting any effective remedy. Owners of Clydesdales and Suffolks are in similar plight. There is an appreciative market for good street horses, but not to an extent that can maintain the breeding studs of the country at their former levels. A solution of the problem thus thrust on farmers is difficult to suggest. It is not now so much a question of breed rivalry as of finding and developing a market competent to take the surplus geldings of the different breeds. The restriction of the gelding market adds to the difficulties that beset the farming community.—*The Times.*

. . . . . .

"It is astonishing to be told that there are probably more horses working in London now than in 1913," says the *Evening Standard*.

"Within a four-mile radius business houses are discovering that as a means of transport they cost about half as much as motors, last longer and are less liable to accident. The heavy taxes on commercial vehicles and the propaganda of the National Horse Association are both working to the same end."

. . . . . .

A Capetown message states that a resolution has been passed, at the congress of the Free State Agricultural Union, urging the Government to take steps to maintain the horsebreeding industry in South Africa.

Breeders declare that horses, although essential to South Africa, are not profitable under existing conditions.

A delegate affirmed that it was almost impossible to buy a good horse anywhere in the Free State.

Errata. Readers are asked to note the following corrections in connection with Mr. Hall Masheter's contribution to the discussion on Mr. Howard Jones' paper published in last week's issue: Page 1051, column 1, paragraph 15, "The buildings are *staple*" should read ". . . *ample*." Column 2, paragraph 9, "Produces *ova* spores usually *saturated* at one end" should read ". . . *oval* . . . *situated* . . . ." Paragraph 10, "yet spores *having* bacilli" should read "yet *spore-bearing* bacilli."

H.M. Stationery Office Publications.

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, and 28 Abingdon Street, S.W.1; Cardiff: 1 St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120 George Street.

	s.	d.	s.	d.
Ministry of Agriculture and Fisheries:—				
Journal of the Ministry of Agriculture, November, 1927. (24-0099-11-27) ...	0	6	0	6
House of Commons Reports and Papers, 1927.				
101. Development Commissioners. Seventh Annual Report for the year ended March 31st, 1927	3	0	3	3
House of Commons Bills, 1927.				
196. Protection of Animals (Amendment) Lords Amendment	0	1	0	1½
Ministry of Health:—				
Circulars:—				
827. Condensed and Dried Milks (33-9999)	0	1	0	1½
Statutory Rules and Orders, 1927:—				
1052. Animal. Diseases of Animals. The Exportation and Transit of Horses, Asses and Mules (Amendment) Order, 1927, dated November 7th, 1927 ...	0	1	0	1½
1070. Animal. The Diseases of Animals Order, 1927, dated November 3rd, 1927	0	1	0	1½

The Weinberg casting apparatus is to have a thorough test at Islington (London) abattoir beginning the first week in January. The Board of Shechita have agreed to guarantee any extra labour expenses, insurance or damage done to cattle or beef, entailed by the trial.

At the meeting of the Dublin County Committee of Agriculture a letter was read from the Department stating that very large numbers of animals slaughtered at city abattoirs and town slaughterhouses were infected with fluke. The disease, the letter added, was at present prevalent throughout the country, and there was every indication that during the winter and spring even cattle and sheep on uplands would be affected.

The Sydney correspondent of *The Times* says: On Ardmore station, Western Queensland, the Rochdale Pastoral Company has been hand-feeding 900 rams with maize for nine months, with the result that the rams use only their front teeth. The back teeth have grown to an inordinate length, and in some cases the rams could not shut their mouths till the manager extracted their teeth.

An X-ray apparatus capable of photographing and treating an elephant is one of the most remarkable features of the Veterinary Röntgen Institute, which was recently opened in Vienna.

The institute has been built for the purpose of utilising X-rays for diagnosing and treating the ailments of any domestic animal. Its instruments, however, are so complete that any known animal in the world can be treated, and it has even been proposed to deal with a special disease to which elephants are subject.

The last Championship Dog Show of national importance of the year takes place at Birmingham on December 7th and 8th, at Bingley Hall. The benching and feeding arrangements are in the capable hands of Spillers. The efficiency of the arrangements at meetings of this description have accomplished much to encourage and increase the interest in dog keeping which now makes a very useful return to the Exchequer in the way of licences, entertainment tax at Dog Race Meetings, etc.

Other December shows to be benched and fed by Spillers are:—7th, Pembroke Dock Show; 7th & 8th, National Dog Show, Birmingham; 15th, Nottingham and District Canine Society Show, and Mitcham and District Canine Society Show; 17th, Preston Open Sporting Terrier Association Show; 26th, Leeds and District Canine Association Show; Truro Show; Carlisle Open Show; and Eastern and Western Valleys of Monmouthshire Canine Society Show, Pontypool; 27th, Western Counties Canine Society Show.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

"Where Do We Stand?"

To the Editor of The Veterinary Record.

Sir,—There is little doubt of the views expressed by Mr. Phipps in his letter to the *Record* of the 19th November, meeting with anything but general approval. Our students on the whole are a good lot of fellows, but they should be protected in so far as possible from outside influence, as well as from undesirables from whom no profession or trade is exempt. It is the duty of the Governors of the Colleges, and even of our Council, to extend the disciplinary powers to the conduct of students in private life.

This primary ethical education is of importance in a man's career, and it has ever been my contention that the lack of it is responsible to a great extent for our professional and social status. How often have I seen the profession at home and abroad adversely criticised on account of the conduct of individuals lacking in primary education. The result of this is that the status of the profession is appraised according to the personality of the local representatives, instead of the converse, as in other professions. It is easy to recognise those who have higher ethical training. It is evident in general conduct, the man's personal appearance, his method of practice, the condition of his premises and instruments in daily use. People quickly sense the difference between dealing with a professional man and one who is merely a person who attends to sick animals—a Vet.

It is not good policy to draw attention to our shortcomings even in our own journals, and I would suggest that veterinary societies should hold at least one meeting a year for the free discussion of professional ethics. It may even be an advantage to include charges against members prior to having them dealt with by the Registration Committee.

In conclusion, Sir, allow me to express the hope that we shall all see the day when our Council will insist on the removal of the hideous signs and boards which "illuminate" the premises of some of our members, and prohibit the use of labels, etc., other than those bearing the name and address.—I am, Sir, faithfully yours,

REG. F. WALL.

128 Queen's Road,
W. 2.
23rd November, 1927.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—There is no other profession which has practised introspection as much as the veterinary profession since the foundation of the first veterinary school in this country. One has only to read the ancient and modern veterinary periodicals to be convinced of this fact.

But with all that to its everlasting credit, it has not, with few exceptions, made much headway with the higher councils of the Empire, in whose eyes we remain the hewers of wood and drawers of water. It is true that during the Boer War the Royal College of Veterinary Surgeons, mainly through the suave and persuasive arguments put forward by its representatives, Messrs. James Simpson and Owen Williams, obtained a better position and terms for the Army Veterinary Service, which absorbed only a comparatively few members of the body corporate. It did not, however, receive all the concessions it desired, and I suppose it never will, since the Army Veterinary Service is of less importance to the State than it was before mechanisation of army transport supplanted to a very great extent the horse, which, with other transport animals, brought the veterinary profession into being.

"Where do we stand?" so far as the home and colonial civil, county council and municipal services are concerned? If we choose to sit still and make no effort to get out of the rut, naturally we must stand in that situation in which we find ourselves.

A great number of men retire from the public services, either through age limit or for other reasons, for whom no sufficient provision has been made either through payment of adequate salaries while in office or a reasonable pension to enable them to continue in their proper walk of life to the end of their days. Instead, these men are foisted on to a market already overwhelmed by practitioners endeavouring to eke out a bare sustenance, with no other prospects than continual drudgery in their declining years. The reports of the Victoria Veterinary Benevolent Society speak for themselves.

Esprit de corps is decidedly lacking in our profession when we read of authentic cases of retired army officers tendering for and accepting half-time positions—if one can call them such—supplying just enough, when taken along with their pensions or private means, to enable them just to keep their heads respectably above water while experienced graduates are unable to obtain a living such as their expenditure on their education and maintenance demands.

Does not the acceptance by these "half-time gentlemen" of a low-scale remuneration tend to bar the legitimate practitioner, who has concentrated his whole time, energies, and mind on private practice in order to gain a livelihood, from acceptance of such a position? We see the devastating result of this to-day in the case of a man practising in the neighbourhood of certain alleged public-spirited bodies founded to assuage the sufferings of *luxurious* dumb animals, unable to carry on, as his professional *confrère* is doing his work as a means of securing a bare existence.

Comparisons are said to be odious, and this is certainly the case when municipal authorities base their scale of remuneration to veterinary officers on meagre salaries which have been accepted in the past by certain pariahs of the profession. It is high time some board of control were instituted to establish scales of remuneration to which adherence must be made by authorities seeking applicants for public appointments. Failure to adhere to the rulings of this board should be severely dealt with.

Leaving aside the social and cultural aspect of the case, is it to be wondered that these men of ability, who, in many cases, are drawn from a higher social and better educated class than their predecessors, should seek further spheres of activity untrammelled by the sayings and utterances of their so-called "leaders" in our apathetic profession? Until such time as a light is made to shine on higher paths to mark the way to an advancement and betterment in the conditions and inner workings of the veterinary profession, so will those having the good of the profession at heart hang back.

The veterinary graduate throughout his training has as gruelling and systematic a course to pursue as his medical *confrère*, and what are the results?

Of two men of equal ability, intelligence and education, one has to accept a miserable pittance of £450 to £600 per annum for work which, from a national standpoint, is at any rate equal to that of the medical officer of health, whose remuneration varies from £1,000 to £1,800 or more, in keeping with his previous experience and endeavours. Can it be wondered at that the veterinary officer should drop into a secondary and lower social and cultural position than his medical officer of health?

There is something very far wrong when such a condition of affairs is allowed to be visualised, let alone exist—as it undoubtedly does today.

Our value to the general community should not be estimated on the basis of how many sick or *injurious* we detect or destroy, or how much diseased animal products we condemn, but on the amount we save by preventing disease in animals and, in doing so, by primarily protecting the public health.

The veterinary profession in these days of rapid transport, inter-communication of countries and great increase of the world's population, has become one of the most important callings, as, by prevention of animal diseases, the food and covering of mankind increase to meet the greater demand for them. The profession need not fear that demand for its services will decline—if that demand decreases in one direction it will be compensated by an increase in another. We must, however, adapt ourselves to new conditions.

Horses are decreasing in importance, but poultry, rabbits, pigs, sheep, goats and cattle are becoming more and more in demand and will continue to do so as the population progresses numerically and an adequate standard of living becomes more difficult to attain.—Yours faithfully,

HENRY GRAY.
26th November, 1927.

The Royal Veterinary College Appointments.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—The two letters published in the *Veterinary Record* seem to have stirred up a disagreeable feeling in my mind. I am a little surprised at their publication in the *Record*. I am of the opinion they are late in the day. Their wording may hurt unnecessarily. They are vague. Do they apply to *all* appointments? By whom have the "adverse comments" been made? Where? and what about?

From a business point of view, what has the R.C.V.S. to do with the appointments made by the R.V.C.? I know nothing about the *other* appointments or the appointed, but in my opinion two better men could not have been appointed to fill the chairs they occupy than Professor Hobday and Dr. Tom Hare.—Yours faithfully,

H. BUCKINGHAM.

20 West Parade,
Earlham Road,
Norwich.
27th November, 1927.

The Editor acknowledges the receipt of the following:—
Communications from Major A. C. Duncan, Lt.-Col. J. W. Rainey, Mr. T. Runciman, Professor J. Share-Jones, and Mr. W. R. Wooldridge.

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